



# MATREYA

Fabry disease

Niemann-Pick Types A and B

Sialidosis

Farber disease

Gaucher disease

## Lipids, Biochemicals, and Standards for Life Science Research

Sandoff disease

Tay-Sachs disease

Krabbe disease

Metachromatic leukodystrophy

GM<sub>1</sub> gangliosidosis

2019-2020

[www.matreya.com](http://www.matreya.com)



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# MATREYA

## **About Matreya LLC**

Matreya aims to develop, manufacture and deliver products of the highest value to our customers. We pride ourselves on achieving the best quality using state-of-the-art techniques, resulting in resolutions typically greater than 98%. We strive for rapid delivery. 95+% of our products are shipped within 24 hours of receipt of an order. Within the area of sphingosines and glycolipids, we have earned a reputation as the preferred problem solver and technology leader.

## **Matreya Products for Life Science Research**

We offer one of the widest selections of ceramides for intracellular signaling research available. We stock antibodies to glycosphingolipids as well as inhibitors of enzymes involved in glycosphingolipid metabolism.

Our products provide the valuable tools necessary for the study of the cell membrane and its structure, growth regulators in the cellular metabolism, and intracellular mediators.

We are able to make our products better and better with the latest technology in Chromatography and Mass Spectrometry.

We are proud to offer our products as a valuable tool for your life science research needs.

## **Matreya Products for Microbiology Research**

Matreya stocks unusual fatty acid standards produced by bacteria that are useful for culture characterization.

## **Matreya Products for the Food and Agriculture Industries**

Many of Matreya's fatty acid products have been industry standards for years. Our fatty acids and methyl esters are used as standards in analysis and quality control.

## **Custom Preparations**

Matreya's experience in chemical synthesis and the extraction and purification of natural products allows us to produce custom preparations with the same high quality and purity as the products listed in our catalog. Depending on the complexity of the molecule, a 30% nonrefundable deposit may be required prior to synthesis. The deposit will be deducted from the final invoice upon completion of the project. Delivery will be 4 to 12 weeks after receipt of an order.

**If you can't find a product in the catalog, please check the index, where common synonyms for our products are listed.**

**[www.matreya.com](http://www.matreya.com)**

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***All chemicals listed in this catalog are for research only. They are not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of these chemicals by the end user. We believe the information in this catalog, offered in good faith, is accurate.***

Limited Warranty: All Matreya Products, except those specifically exempted, are warranted (for 30 days) to be free of defects in materials and workmanship, if properly stored. Any replacements required as a result of such defects will be made without charge provided that such defective products are returned with a written explanation. Please request a Returned Goods Authorization before returning products under this warranty.

## **Technical Service**

Our technical service department may be contacted by telephone at 800-342-3595 (US), 814-355-1030 (world-wide) or by e-mail at [techservice@matreya.com](mailto:techservice@matreya.com).

## **Natural Products**

Some of our glycolipids are extracted from natural sources. These products have a normal heterogeneity in their lipid components, particularly in the fatty acids. Variations include carbon chain length as well as the presence or absence of 2-hydroxy fatty acids. Products based on sphingosine may contain longer chain sphingoid bases as well as chains with multiple double bonds. This heterogeneity may result in additional spots shown on TLC plates or multiple peaks in LC analyses. We have listed the typical fatty acid compositions of our natural products in Table III.

## **Storage**

Catalog items in unopened containers are stable for at least one year when stored under the conditions indicated in the catalog listing. Items containing unsaturated fatty acids are subject to oxidation and should be stored in a solution of organic solvents or under argon. Glycolipids and phospholipids should not be stored in aqueous solutions due to potential hydrolysis.

## **Package Weight**

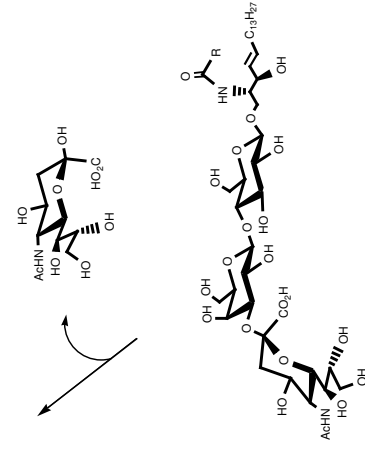
Unless otherwise specified, the package will contain at least the indicated amount and usually slightly more. The user is cautioned to always measure the required amount from the container.

## **Matreya's Mission**

Matreya is committed to manufacturing high purity lipids to be used as research standards in the biotechnology and pharmaceutical areas. These lipids will be offered world-wide at a fair market price, and at a profit sufficient to assure company growth, for the benefit of its customers, employees, share holders, and community. Matreya will also be committed to fast delivery, excellent technical backup, new product development, safety, and environmentally friendly.

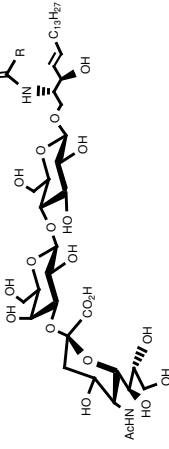


*alpha-Galactosidase A*  
Fabrys disease

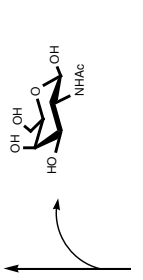


*Ganglioside neuraminidase*  
Sialidosis

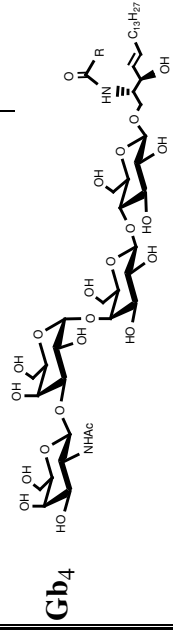
**Monosialoganglioside GM<sub>3</sub>**



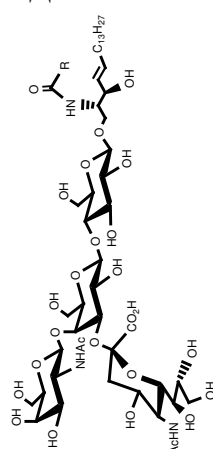
*Hexosaminidase A*  
Tay-Sachs disease  
Sandhoffs disease



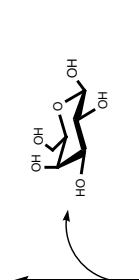
*beta-Hexosaminidase A + B*  
Sandhoffs disease



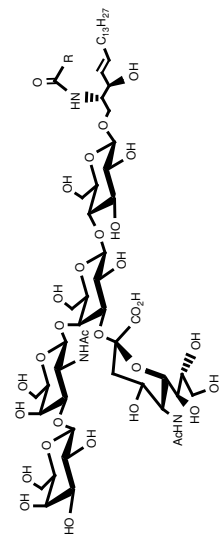
**Monosialoganglioside GM<sub>2</sub>**



*Acid-beta-Galactosidase*  
GM1 gangliosidosis



**Monosialoganglioside GM<sub>1</sub>**



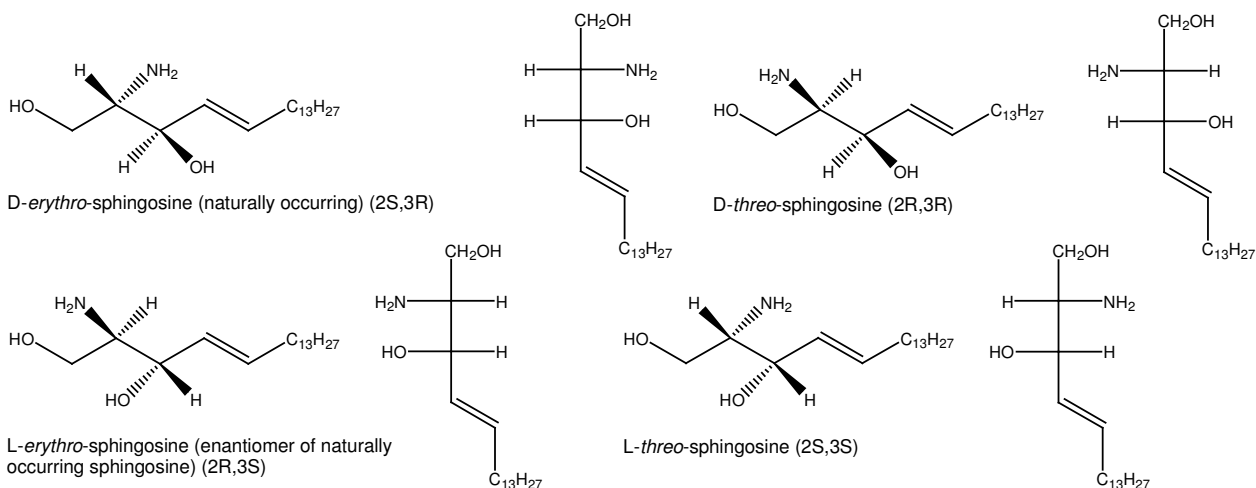
## Spingoid Bases, Spingolipids and Glycosphingolipids

Spingoid bases such as spingosine are the characteristic structural unit of the spingolipids. The bases are long chain aliphatic amines, containing two or three hydroxyl groups, and typically a *trans*-double bond at C4. In animal tissues, the most abundant base is spingosine with a C18 aliphatic chain containing a double bond in position 4. The saturated analogue is dihydrosphingosine or spinganine. In plants, the common long chain base is the 4 hydroxy saturated base phytosphingosine.

Spingolipids are widely distributed in animal tissues, particularly cell membranes. Spingoid bases linked to fatty acids via an amide bond at C2 are ceramides and are present in trace amounts in most tissues. Glycosphingolipids (ceramides having various mono- and oligosaccharides on the OH group at C1) are neutral glycosphingolipids (i.e., cerebrosides and globosides). Those with sialic acid derivatized sugars are acidic glycolipids (i.e., gangliosides). They are amphiphilic and can be solubilized in buffers via sonication and micelle formation.

Gangliosides are present in substantial amounts in nerve cell membranes, and together with globosides are found in the membranes of white and red blood cells. These, plus the glycosphingolipids of the lacto- and neolacto-series are involved in cell recognition (e.g. blood group determinants). Glycolipid expression on the surface of cells determines their antigenicity as well as their status, i.e. differentiated vs. undifferentiated (embryonic), normal vs. malignant, etc. (1). The ganglioside GM<sub>1</sub> stimulates nerve growth (2,3) and has been reported to have a curative effect on experimental Parkinsonism (4). For an overview, see (5). Gangliosides are also being investigated as potential anti-tumor vaccines (6). Glycosphingolipids are also essential for the correct functioning of cell surface receptors (7). Matreya is your best source for many spingolipids. Most of Matreya's spingosines and ceramides are fully synthetic and, as such, 98%+ pure. Others, particularly the glycosphingolipids, are highly purified natural products (98%+) and can be used either as standards or biochemical reagents without further purification.

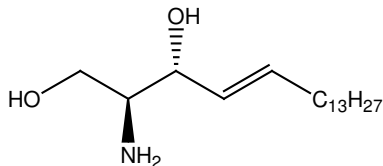
Through total synthesis, a number of spingosines and ceramides are available (for details in using ceramides in cell culture see Hauser et al. [9]). Fluorescent labeled ceramides, glycosphingolipids and spingomyelins are also available for study. D. N. Brindley and his group have been exploring the interaction of ceramides, spingosine and spingosine 1-phosphate in regulating DNA synthesis and phospholipase D activity. **See Literature References on page 109.**





## Sphingosines

### Synthetic Sphingosines with C18 Sphingoid Base



**1802**      **D-erythro-Sphingosine**      **25 mg**  
Sphingosine with C18 chain

$C_{18}H_{37}NO_2$       **Mol. Wt.:** 299      **CAS#:** 123-78-4  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$   
**Activity:** Selective inhibitor of phosphokinase C

**2079**      **D-erythro-Sphingosine, D9**      **1 mg**  
15,15,16,16,17,17,18,18,18-D9-2-Amino-octadec-4-ene-1,3-diol

$C_{18}H_{28}D_9NO_2$       **Mol. Wt.:** 309      **Identity:** confirmed by MS  
**Source:** synthetic      **Purity:** 98+% by TLC, GC, HPLC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$

**1806**      **L-threo-Sphingosine**      **10 mg**  
L-threo-Sphingosine, C18 chain

$C_{18}H_{37}NO_2$       **Mol. Wt.:** 299      **CAS#:** 25695-95-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$

**1826**      **L-erythro-Sphingosine**      **5 mg**  
L-erythro-Sphingosine, C18 chain

$C_{18}H_{37}NO_2$       **Mol. Wt.:** 299      **CAS#:** 6036-75-5  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$

### Synthetic Sphingosines with Sphingoid Bases other than C18

Varying chain lengths allows the study of translocation effects of sphingosines and ceramides into cells.

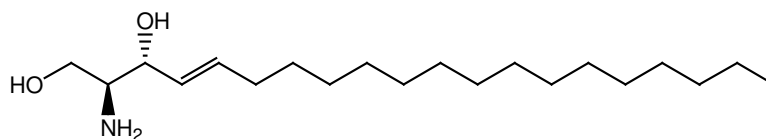
**1838**      **D-erythro-C12-Sphingosine**      **5 mg**  
Sphingosine with C12 chain

$C_{12}H_{25}NO_2$       **Mol. Wt.:** 215      **CAS#:** 128427-86-1  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$

**1833**      **D-erythro-C14-Sphingosine**      **5 mg**  
Sphingosine with C14 chain

$C_{14}H_{29}NO_2$       **Mol. Wt.:** 243      **CAS#:** 24558-60-9  
**Source:** synthetic      **Purity:** 98+% by TLC, GC, HPLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:**  $-20^{\circ}C$

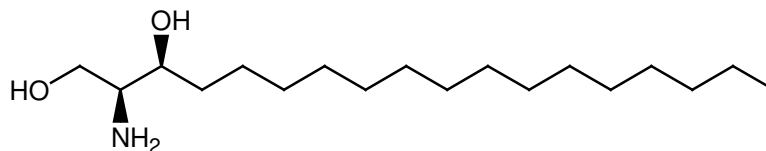
<b>2082</b>	<b>D-erythro-C17-Sphingosine</b> Sphingosine with C17 chain	<b>5 mg</b>
	$C_{17}H_{35}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 286 <b>Purity:</b> 98+% by TLC, GC, HPLC <b>Solubility:</b> chloroform, ethanol, methanol
		<b>CAS#:</b> 6918-48-5 <b>Identity:</b> confirmed by MS



<b>1840</b>	<b>D-erythro-C20-Sphingosine</b> Sphingosine with C20 chain	<b>5 mg</b>
	$C_{20}H_{41}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 328 <b>Purity:</b> 98+% by TLC, GC, HPLC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO
		<b>CAS#:</b> 6918-49-6

### Synthetic Dihydrosphingosines

D,L-*threo*-Dihydrosphingosine has also been found to be a significant inhibitor of sphingosine kinase (8). The D,L-*erythro*-isomer has been used as an inactive control. We offer all four isomers in pure form making detailed studies possible. Safingol, the L-*threo*-isomer is a potent inhibitor of PKC and, as such, is capable of reversing multi-drug resistance in cancer cells (9). **See Literature References on page 109.**



<b>1807</b> <b>1807-025</b>	<b>L-threo-Dihydrosphingosine (Safingol)</b> L- <i>threo</i> -Sphinganine, C18 chain	<b>5 mg</b> <b>25 mg</b>
	$C_{18}H_{39}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$ <b>Activity:</b> Inhibitor of Protein Kinase C (PKC) and Sphingosine Kinase	<b>Mol. Wt.:</b> 301 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO
		<b>CAS#:</b> 15639-50-6

<b>1831</b>	<b>D-erythro-Dihydrosphingosine</b> D- <i>erythro</i> -Sphinganine, C18 chain	<b>25 mg</b>
	$C_{18}H_{39}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$ <b>Activity:</b> Inhibitor of $PLA_2$ and PLD	<b>Mol. Wt.:</b> 301 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO
		<b>CAS#:</b> 764-22-7 <b>Identity:</b> confirmed by MS

<b>1846</b>	<b>L-erythro-Dihydrosphingosine</b> L- <i>erythro</i> -Sphinganine, C18 chain	<b>1 mg</b>
	$C_{18}H_{39}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 301 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO
		<b>CAS#:</b> 6036-76-6

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**1851**      **D-threo-Dihydrosphingosine**      **1 mg**  
D-threo-Sphinganine, C18 chain

$C_{18}H_{39}NO_2$       **Mol. Wt.:** 301      **CAS#:** 6036-86-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:** -20°C

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**1324**      **D,L-erythro-Dihydrosphingosine**      **25 mg**  
D,L-erythro-Sphinganine, C18 chain

$C_{18}H_{39}NO_2$       **Mol. Wt.:** 301      **CAS#:** 3102-56-5  
**Source:** synthetic      **Purity:** erythro 77%; threo 23% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:** -20°C  
**Activity:** Inhibitor of sphingosine kinase

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**1326**      **D,L-C16-Dihydrosphingosine (mixed isomers )**      **10 mg**  
D,L-Sphinganine with C16 chain

$C_{16}H_{35}NO_2$       **Mol. Wt.:** 273  
**Source:** synthetic      **Purity:** erythro 90%, threo 10% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:** -20°C

---

**1845**      **D-erythro-C20-Dihydrosphingosine**      **5 mg**  
D-erythro-Sphinganine, C20 chain

$C_{20}H_{43}NO_2$       **Mol. Wt.:** 330      **CAS#:** 24006-62-0  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** warm ethanol, chloroform/methanol, 5:1  
**Storage:** -20°C

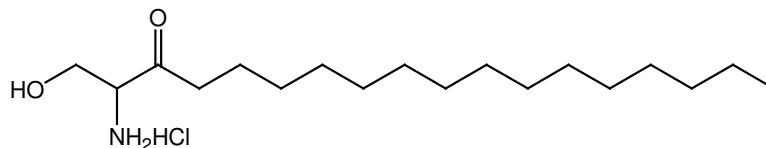
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**1839**      **D,L-erythro-C20-Dihydrosphingosine**      **10 mg**  
D,L-erythro-Sphinganine, C20 chain

$C_{20}H_{43}NO_2$       **Mol. Wt.:** 330  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** warm ethanol, chloroform/methanol, 5:1  
**Storage:** -20°C

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### 3-Keto-Dihydrosphingosines



**1876**      **3-keto-Dihydrosphingosine·HCl**      **10 mg**  
3-keto-Sphinganine hydrochloride

$C_{18}H_{37}NO_2 \cdot HCl$       **Mol. Wt.:** 299 + HCl      **CAS#:** 18944-28-0  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:** -20°C

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**1891**      **3-keto-C6-Dihydrosphingosine-HCl**      **10 mg**  
1-Hydroxy-2-amino-3-keto-hexane • HCl

$C_6H_{13}NO_2 \cdot HCl$   
**Source:** synthetic  
**Appearance:** solid  
**Storage:**  $-20^\circ C$

**Mol. Wt.:** 168  
**Purity:** 98+% by TLC  
**Solubility:** ethanol, methanol, DI water

**CAS#:** 1314999-30-8

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**1892**      **3-keto-C8-Dihydrosphingosine-HCl**      **10 mg**  
1-Hydroxy-2-amino-3-keto-octane • HCl

$C_8H_{17}NO_2 \cdot HCl$   
**Source:** synthetic  
**Appearance:** solid  
**Storage:**  $-20^\circ C$

**Mol. Wt.:** 196  
**Purity:** 98+% by TLC  
**Solubility:** chloroform, ethanol, methanol, DI water

**CAS#:** 1824382-78-6

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**1893**      **3-keto-C12-Dihydrosphingosine-HCl**      **10 mg**  
1-Hydroxy-2-amino-3-keto-dodecane • HCl

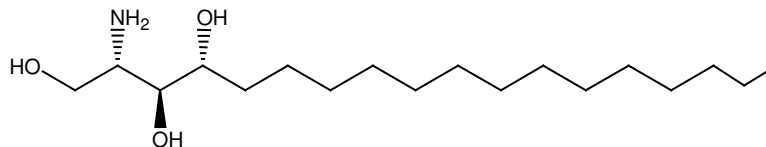
$C_{12}H_{25}NO_2 \cdot HCl$   
**Source:** synthetic  
**Appearance:** solid  
**Storage:**  $-20^\circ C$

**Mol. Wt.:** 252  
**Purity:** 98+% by TLC  
**Solubility:** chloroform, ethanol, methanol

**CAS#:** 1823032-02-5

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## Phytosphingosines



**1330**      **Phytosphingosine**      **50 mg**  
4-Hydroxysphinganine

$C_{18}H_{39}NO_3$   
**Source:** natural, yeast  
(*Pichia ciferri*)  
**Appearance:** solid  
**Storage:**  $-20^\circ C$

**Mol. Wt.:** 318  
**Purity:** 98+% by TLC, GC  
**Solubility:** ethanol, methanol, chloroform/methanol, 2:1 (warm)

**CAS#:** 554-62-1  
**Identity:** confirmed by MS

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## Other Sphingosine Derivatives and Precursors

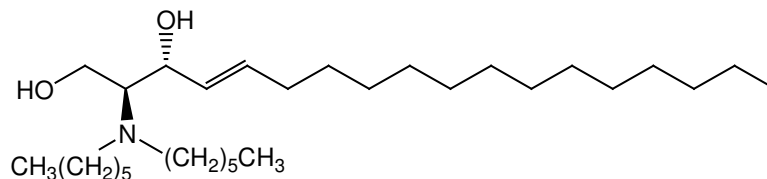
**1320**      **N,N-Dimethyl-D-erythro-sphingosine**      **5 mg/ml, 1 ml**

$C_{20}H_{41}NO_2$   
**Source:** synthetic  
**Appearance:** liquid  
**Storage:**  $-20^\circ C$   
**Activity:** Inhibitor of phosphokinase C

**Mol. Wt.:** 328  
**Purity:** 98+% by TLC  
**Solubility:** chloroform, ethanol, isopropanol, methanol  
**Solvent:** isopropanol

**CAS#:** 119567-63-4  
**Identity:** confirmed by MS

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1896

**N,N-Dihexyl-D-erythro-sphingosine**

5 mg/ml, 1 ml

Sphingosine with tertiary amine group

$C_{30}H_{61}NO_2$

Mol. Wt.: 468

Source: synthetic

Purity: 95% by TLC

Appearance: liquid

Solubility: chloroform, ethanol, methanol

Storage:  $-20^{\circ}C$

Solvent: ethanol

## Ceramides

Ceramide is a fatty acid amide of sphingosine. It may be formed by dehydrogenation of dihydroceramide; by hydrolysis of sphingomyelin or glycosphingolipids; or by acylation of free sphingosine. Ceramide functions as a precursor in the synthesis of sphingomyelin (by an exchange reaction with phosphatidylcholine and phosphatidylethanolamine); of glycosphingolipids (by glycosylation with UDP-hexose); and of free sphingosine and fatty acid by hydrolysis. The sphingosine can be phosphorylated by a kinase to form sphingosine-1-phosphate, which may undergo further hydrolysis or cleavage.

Control of sphingolipid metabolism maintains vital balance points in cell physiology. Two of ceramide's metabolites, sphingosine-1-phosphate and glucosylceramide, produce cell proliferation. Sphingosine-1-phosphate is also a highly active regulator of angiogenesis, vascular maturation, cardiac development, immunity, and directed cell movement. Sphingosine, the free base, is a potent inhibitor of protein kinase C and is involved in intracellular calcium regulation.

Sphingolipid enzymes seem to be particularly active in cancers, so modifying their activities by exogenous action may provide alternatives to chemical therapies. These enzymes are controlled by many known agents, such as 1,25-dihydroxy-vitamin  $D_3$ , tumor necrosis factor- $\alpha$ , nerve growth factor, interleukin 1, endothelial growth factor, glutathione, arachidonic acid, dexamethasone, many anticancer drugs, therapeutic radiation, and activators of the FAS receptor.

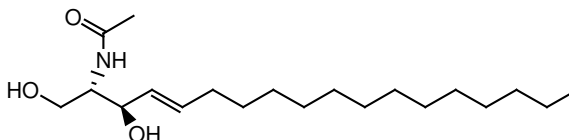
Ceramide exerts numerous biological effects, including induction of cell maturation, cell cycle arrest, terminal cell differentiation, cell senescence, and cell death. Other effects include producing reactive oxygen in mitochondria (followed by apoptosis) and stimulating phosphorylation of certain proteins (especially mitogen activated protein). It also stimulates some protein phosphatases (especially protein phosphatase 2A). Thus, ceramide is an important controller of protein activity.

It is apparent from these relationships that ceramide exists at the crux of several enzyme reaction cycles and that experiments involving sphingolipid function call for control of all of the cycles and their branch-off points. Matreya is the major supplier of these lipids, which can be used as standards for analysis of tissues (a much needed part of modern research) and identification of major sphingolipids.

Ceramides with short side chains have been shown to enter easily into cells where they are biologically active. Ceramides with longer side chains, however, also enter cells if dissolved in dodecane-isopropanol first. Fluorescent labeled ceramides and sphingomyelin made from fluorescent labeled acids instead of plain fatty acids are also available for the study of the localization and metabolism of sphingolipids in the cell.

In three major reviews, Radin (10-12) has discussed the biochemistry and chemistry of ceramides and outlined many potential approaches to cancer therapy using ceramides and related compounds as generators of apoptosis. **See Literature References on page 109.**

## Synthetic Ceramides Derived from C18-Sphingosine



**1901**      **N-Acetyl-D-erythro-sphingosine**      **10 mg**  
 N-C2:0-D-erythro-Ceramide

$C_{20}H_{39}NO_3$       **Mol. Wt.:** 342      **CAS#:** 3102-57-6  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO (up to 5 mg/ml)  
**Storage:** -20°C

**1829**      **N-Acetyl-L-threo-sphingosine**      **1 mg**  
 N-C2:0-L-threo-Ceramide

$C_{20}H_{39}NO_3$       **Mol. Wt.:** 342  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO, DMF (up to 5 mg/ml)  
**Storage:** -20°C

**1847**      **N-Acetyl-L-erythro-sphingosine**      **1 mg**  
 N-C2:0-L-erythro-Ceramide

$C_{20}H_{39}NO_3$       **Mol. Wt.:** 342  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO, DMF (up to 5 mg/ml)  
**Storage:** -20°C

**1900**      **N-Hexanoyl-D-erythro-sphingosine**      **10 mg**  
 N-C6:0-D-erythro-Ceramide

$C_{24}H_{47}NO_3$       **Mol. Wt.:** 398      **CAS#:** 124753-97-5  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, DMSO (up to 5 mg/ml)  
**Storage:** -20°C

**1828**      **N-Hexanoyl-L-threo-sphingosine**      **1 mg**  
 N-C6:0-L-threo-Ceramide

$C_{24}H_{47}NO_3$       **Mol. Wt.:** 398  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)  
**Storage:** -20°C

**1848**      **N-Hexanoyl-L-erythro-sphingosine**      **1 mg**  
 N-C6:0-L-erythro-Ceramide

$C_{24}H_{47}NO_3$       **Mol. Wt.:** 398  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)  
**Storage:** -20°C

<b>1809</b>	<b>N-Hexanoyl-D-<i>threo</i>-sphingosine</b> N-C6:0-D- <i>threo</i> -Ceramide	<b>1 mg</b>
	$C_{24}H_{47}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 398 Purity: 98+% by TLC, GC Solubility: chloroform, methanol, DMSO (up to 5 mg/ml) Identity: confirmed by MS
<b>1903</b>	<b>N-Octanoyl-D-<i>erythro</i>-sphingosine</b> N-C8:0-D- <i>erythro</i> -Ceramide	<b>10 mg</b>
	$C_{26}H_{51}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 426 Purity: 98+% by TLC, GC Solubility: chloroform, ethanol, methanol, DMSO (up to 5 mg/ml) CAS#: 74713-59-0 Identity: confirmed by MS
<b>1830</b>	<b>N-Octanoyl-L-<i>threo</i>-sphingosine</b> N-C8:0-L- <i>threo</i> -Ceramide	<b>1 mg</b>
	$C_{26}H_{51}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 426 Purity: 98+% by TLC, GC Solubility: chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)
<b>1810</b>	<b>N-Octanoyl-D-<i>threo</i>-sphingosine</b> N-C8:0-D- <i>threo</i> -Ceramide	<b>1 mg</b>
	$C_{26}H_{51}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 426 Purity: 98+% by TLC, GC Solubility: chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)
<b>1333</b>	<b>N-Decanoyl-D-<i>erythro</i>-sphingosine</b> N-C10:0-D- <i>erythro</i> -Ceramide	<b>10 mg</b>
	$C_{28}H_{55}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 454 Purity: 98+% by TLC, GC Solubility: chloroform, ethanol, methanol, DMSO (up to 5mg/ml) CAS#: 111122-57-7 Identity: confirmed by MS
<b>1936</b>	<b>N-Dodecanoyl-D-<i>erythro</i>-sphingosine</b> N-C12:0-D- <i>erythro</i> -Ceramide	<b>10 mg</b>
	$C_{30}H_{59}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 482 Purity: 98+% by TLC Solubility: chloroform, ethanol, DMSO, DMF CAS#: 74713-60-3 Identity: confirmed by MS
<b>2037</b>	<b>N-Pentadecanoyl-D-<i>erythro</i>-sphingosine</b> N-C15:0-D- <i>erythro</i> -Ceramide	<b>10 mg</b>
	$C_{33}H_{65}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 524 Purity: 98+% by TLC, GC Solubility: chloroform, warm ethanol, warm methanol Identity: confirmed by MS
<b>1915</b>	<b>N-Hexadecanoyl-D-<i>erythro</i>-sphingosine</b> N-C16:0-D- <i>erythro</i> -Ceramide; N-Palmitoyl-D- <i>erythro</i> -sphingosine	<b>10 mg</b>
	$C_{34}H_{67}NO_3$ Source: synthetic Appearance: solid Storage: $-20^{\circ}C$	Mol. Wt.: 538 Purity: 98+% by TLC, GC Solubility: chloroform, warm ethanol, warm methanol CAS#: 24696-26-2 Identity: confirmed by MS

<b>2038</b>	<b>N-Heptadecanoyl-D-erythro-sphingosine</b> N-C17:0-D-erythro-Ceramide	<b>10 mg</b>
	<b>C<sub>35</sub>H<sub>69</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 552 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, warm ethanol, warm methanol
		<b>CAS#:</b> 67492-16-4
<b>1832</b>	<b>N-Octadecanoyl-D-erythro-sphingosine</b> N-C18:0-D-erythro-Ceramide; N-Stearoyl-D-erythro-sphingosine	<b>10 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 566 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, hot ethanol, chloroform/methanol, 2:1 (up to 5mg/ml)
		<b>CAS#:</b> 2304-81-6
<b>2201</b>	<b>N-omega-CD<sub>3</sub>-Octadecanoyl-D-erythro-sphingosine</b> N-C18:0-CD <sub>3</sub> -D-erythro-Ceramide; N-Stearoyl-CD <sub>3</sub> -D-erythro-sphingosine	<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>68</sub>NO<sub>3</sub>D<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 569 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, hot ethanol, DMF
		<b>Identity:</b> confirmed by MS
<b>1939</b> <b>1939-25</b>	<b>N-Octadecenoyl-(cis-9)-D-erythro-sphingosine</b> N-C18:1-D-erythro-Ceramide; N-Oleoyl-D-erythro-sphingosine	<b>5 mg</b> <b>25 mg</b>
	<b>C<sub>36</sub>H<sub>69</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 564 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, hot ethanol, DMF
		<b>CAS#:</b> 5966-28-9 <b>Identity:</b> confirmed by MS
<b>1843</b>	<b>N-Octadecanoyl-L-threo-sphingosine</b> N-C18:0-L-threo-Ceramide; N-Stearoyl-L-threo-sphingosine	<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 566 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO, DMF (up to 5mg/ml)
<b>1850</b>	<b>N-Octadecanoyl-L-erythro-sphingosine</b> N-C18:0-L-erythro-Ceramide; N-Stearoyl-L-erythro-sphingosine	<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 566 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO, DMF (up to 5mg/ml)
<b>1855</b>	<b>N-Octadecanoyl-D-threo-sphingosine</b> N-C18:0-D-threo-Ceramide; N-Stearoyl-D-threo-sphingosine	<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 566 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO, DMF (up to 5mg/ml)
		<b>CAS#:</b> 2304-81-6
<b>2039</b>	<b>N-Nonadecanoyl-D-erythro-sphingosine</b> N-C19:0-D-erythro-Ceramide	<b>10 mg</b>
	<b>C<sub>37</sub>H<sub>73</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 580 <b>Purity:</b> 98+% by TLC, GC, HPLC <b>Solubility:</b> chloroform, warm ethanol, warm methanol
		<b>Identity:</b> confirmed by MS



<b>1916</b>	<b>N-Tetracosanoyl-D-erythro-sphingosine</b> N-C24:0-D-erythro-Ceramide; N-Lignoceroyl-D-erythro-sphingosine	<b>5 mg</b>
	<b>C<sub>42</sub>H<sub>83</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 650 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform
		<b>CAS#:</b> 34435-05-7 <b>Identity:</b> confirmed by MS
<b>1930</b>	<b>N-Tetracosenoyl-(cis-15)-D-erythro-sphingosine</b> N-cis-15-C24:1-D-erythro-Ceramide; N-Nervonoyl-D-erythro-sphingosine	<b>5 mg</b>
	<b>C<sub>42</sub>H<sub>81</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 648 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO, warm methanol
		<b>CAS#:</b> 54164-50-0
<b>2049</b>	<b>N-Triacontanoyl-D-erythro-sphingosine</b> N-C30:0-D-erythro-Ceramide	<b>1 mg</b>
	<b>C<sub>48</sub>H<sub>95</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 734 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 2:1, chloroform, ethanol
		<b>CAS#:</b> 871540-97-5 <b>Identity:</b> confirmed by MS
<b>2080</b>	<b>N-omega-Hydroxytriacontanoyl-D-erythro-sphingosine</b> N-omega-Hydroxy-C30:0-D-erythro-ceramide	<b>5 mg</b>
	<b>C<sub>48</sub>H<sub>95</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 750 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 2:1, DMF, hot ethanol
		<b>Identity:</b> confirmed by MS
<b>2084</b>	<b>N-(30-Linoleoyloxy-triacontanoyl)-sphingosine</b> Ceramide EOS; EOS Ceramide 1	<b>1 mg</b>
	<b>C<sub>66</sub>H<sub>125</sub>NO<sub>5</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1013 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, methanol, DMF
		<b>Identity:</b> confirmed by MS
<b>2135</b> <b>*NEW*</b>	<b>N-(30-Linoleoyloxy-triacontanoyl)-phytosphingosine</b> Ceramide EOP; EOP Ceramide 9	<b>1 mg</b>
	<b>C<sub>66</sub>H<sub>127</sub>NO<sub>6</sub></b> <b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1031 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> warm chloroform/methanol, 4:1
		<b>Identity:</b> confirmed by MS
<b>2208</b> <b>*NEW*</b>	<b>N-(32-Linoleoyloxy-dotriacontanoyl)-sphingosine-D9</b> EOS Ceramide, deuterated; O-acylceramide, deuterated	<b>1 mg</b>
	<b>C<sub>68</sub>H<sub>120</sub>D<sub>9</sub>NO<sub>5</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1050 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, methanol, DMF
		<b>Identity:</b> confirmed by MS
<b>2048</b>	<b>N-Dotriacontanoyl-D-erythro-sphingosine</b> N-C32:0-D-erythro-Ceramide	<b>5 mg</b>
	<b>C<sub>50</sub>H<sub>99</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 762 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 2:1, hot methanol, hot ethanol, hot DMSO
		<b>CAS#:</b> 34227-73-1 <b>Identity:</b> confirmed by MS

<b>2081</b>	<b>N-Hexanoyl-biotin-D-erythro-sphingosine</b> N-C6:0-biotin-D-erythro-Ceramide	<b>5 mg</b>
	<b>C<sub>34</sub>H<sub>62</sub>N<sub>4</sub>O<sub>5</sub>S</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 639 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1, DMF
		<b>Identity:</b> confirmed by MS

## 2-Hydroxy Ceramides

<b>2044</b>	<b>N-(R,S)-alpha-Hydroxyoctadecanoyl-D-erythro-sphingosine</b> N-(R,S)-alpha-Hydroxy-C18:0-D-erythro-ceramide; N-(R,S)-alpha-Hydroxystearoyl-D-erythro-sphingosine	<b>5 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 582 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.5
		<b>Identity:</b> confirmed by MS

<b>2096</b> <b>*NEW*</b>	<b>N-(R)-alpha-Hydroxytetracosanoyl-D-erythro-sphingosine</b> N-(R)-alpha-Hydroxy-C24:0-ceramide; N-(R)-Cerebronoyl-ceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>83</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 666 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 4:1, warm ethanol
		<b>Identity:</b> confirmed by MS

<b>2097</b> <b>*NEW*</b>	<b>N-(S)-alpha-Hydroxytetracosanoyl-D-erythro-sphingosine</b> N-(S)-alpha-Hydroxy-C24:0-ceramide; N-(S)-Cerebronoyl-ceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>83</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 666 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 4:1, warm ethanol
		<b>Identity:</b> confirmed by MS

<b>2098</b> <b>*NEW*</b>	<b>N-(R)-alpha-Hydroxytetracosanoyl-D-erythro-dihydrosphingosine</b> N-(R)-alpha-Hydroxy-C24:0-sphinganine; N-(R)-Cerebronoyl-dihydroceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>85</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 668 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1
		<b>Identity:</b> confirmed by MS

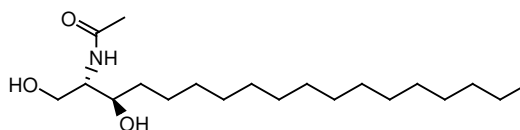
<b>2099</b> <b>*NEW*</b>	<b>N-(S)-alpha-Hydroxytetracosanoyl-D-erythro-dihydrosphingosine</b> N-(S)-alpha-Hydroxy-C24:0-sphinganine; N-(S)-Cerebronoyl-dihydroceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>85</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 668 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1
		<b>Identity:</b> confirmed by MS

## Ceramide Made from Sphingosines with Sphingoid Bases Other Than C18

<b>1842</b>	<b>N-Acetyl-D-erythro-sphingosine (C14 sphingolipid base)</b> N-C2:0 Ceramide of D-erythro-C14-sphingosine	<b>5 mg</b>
	<b>C<sub>16</sub>H<sub>31</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 285 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)
		<b>Identity:</b> confirmed by MS

<b>2077</b>	<b>N-Hexadecanoyl-D-erythro-sphingosine (C16 sphingolipid base)</b> N-Palmitoyl-D-erythro-C16-sphingosine; N-C16:0 Ceramide of D-erythro-C16-sphingosine	<b>1 mg</b>
	<b>C<sub>32</sub>H<sub>63</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 510 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform, warm ethanol, warm methanol
		<b>Identity:</b> confirmed by MS

## Dihydroceramides



<b>1834</b>	<b>N-Acetyl-D-erythro-dihydrosphingosine</b> N-C2:0-D-erythro-Dihydroceramide; N-Acetyl-D-erythro-sphinganine	<b>5 mg</b>
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<b>C<sub>20</sub>H<sub>41</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 344 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol	<b>CAS#:</b> 13031-64-6 <b>Identity:</b> confirmed by MS
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<b>1910</b>	<b>N-Hexanoyl-D-erythro-dihydrosphingosine</b> N-C6:0-D-erythro-Dihydroceramide; N-Hexanoyl-D-erythro-sphinganine	<b>5 mg</b>
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<b>C<sub>24</sub>H<sub>49</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 400 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO	<b>CAS#:</b> 171039-13-7
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<b>1854</b>	<b>N-Octanoyl-D-erythro-dihydrosphingosine</b> N-C8:0-D-erythro-Dihydroceramide; N-Octanoyl-D-erythro-sphinganine	<b>5 mg</b>
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<b>C<sub>26</sub>H<sub>53</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 428 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, DMSO	<b>Identity:</b> confirmed by MS
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<b>2078</b>	<b>N-Hexadecanoyl-D-erythro-dihydrosphingosine</b> N-C16:0-D-erythro-Dihydroceramide; N-Hexadecanoyl-D-erythro-sphinganine	<b>10 mg</b>
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<b>C<sub>34</sub>H<sub>69</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 540 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 5:1, hot ethanol, DMSO	<b>Identity:</b> confirmed by MS
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<b>2083</b>	<b>N-Heptadecanoyl-D-erythro-dihydrosphingosine</b> N-C17:0-D-erythro-Dihydroceramide; N-Heptadecanoyl-D-erythro-sphinganine	<b>5 mg</b>
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<b>C<sub>35</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 554 <b>Purity:</b> 98+% by TLC, GC, HPLC <b>Solubility:</b> chloroform/methanol 5:1, hot ethanol, DMSO	<b>Identity:</b> confirmed by MS
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<b>2041</b>	<b>N-Octadecanoyl-D-erythro-dihydrosphingosine</b> N-C18:0-D-erythro-Dihydroceramide; N-Octadecanoyl-D-erythro-sphinganine; N-Stearoyl-D-erythro-dihydrosphingosine	<b>10 mg</b>
	$C_{36}H_{73}NO_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 568 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> hot ethanol, DMSO, warm chloroform/methanol, 5:1 <b>Identity:</b> confirmed by MS
<b>2093</b> <b>*NEW*</b>	<b>N-Tetracosanoyl-D-erythro-dihydrosphingosine</b> N-C24:0-D-erythro-Dihydroceramide; N-Tetracosanoyl-D-erythro-sphinganine; N-Lignoceryl-D-erythro-dihydrosphingosine	<b>5 mg</b>
	$C_{42}H_{85}NO_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 652 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS
<b>2202</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-D-erythro-dihydrosphingosine</b> N-C18:0-CD <sub>3</sub> -D-erythro-Dihydroceramide; N-Stearoyl-CD <sub>3</sub> -D-erythro-sphinganine	<b>1 mg</b>
	$C_{36}H_{70}D_3NO_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 571 <b>Purity:</b> 98% by TLC, GC, HPLC <b>Solubility:</b> hot ethanol, DMF, DMSO, chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS
<b>2212</b> <b>*NEW*</b>	<b>N-Hexanoyl-biotin-D-erythro-dihydrosphingosine</b> N-C6:0-Biotin-sphinganine; N-C6:0-Biotin-dihydroceramide	<b>5 mg</b>
	$C_{34}H_{64}N_4O_5S$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 641 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS

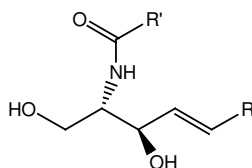
## 2-Hydroxy Dihydroceramides

<b>2043</b>	<b>N-(R,S)-<i>alpha</i>-Hydroxydodecanoyl-D-erythro-dihydrosphingosine</b> N-(R,S)- <i>alpha</i> -Hydroxy-C12:0-D-erythro-dihydroceramide	<b>5 mg</b>
	$C_{30}H_{61}NO_4$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 500 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.5 <b>Identity:</b> confirmed by MS
<b>2047</b>	<b>N-(R,S)-<i>alpha</i>-Hydroxyhexadecanoyl-D-erythro-dihydrosphingosine</b> N-(R,S)- <i>alpha</i> -Hydroxy-C16:0-D-erythro-dihydroceramide; N-(R,S)- <i>alpha</i> -Hydroxypalmitoyl-D-erythro-dihydrosphingosine	<b>5 mg</b>
	$C_{34}H_{69}NO_4$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 556 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.5 <b>Identity:</b> confirmed by MS
<b>2045</b>	<b>N-(R,S)-<i>alpha</i>-Hydroxyoctadecanoyl-D-erythro-dihydrosphingosine</b> N-(R,S)- <i>alpha</i> -Hydroxy-C18:0-D-erythro-dihydroceramide; N-(R,S)- <i>alpha</i> -Hydroxystearoyl-D-erythro-dihydrosphingosine	<b>5 mg</b>
	$C_{36}H_{73}NO_4$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 584 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.5 <b>Identity:</b> confirmed by MS

<b>2098</b> <b>*NEW*</b>	<b>N-(R)-<i>alpha</i>-Hydroxytetracosanoyl-D-erythro-dihydrosphingosine</b> N-(R)- <i>alpha</i> -Hydroxy-C24:0-sphinganine; N-(R)-Cerebronoyl-dihydroceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>85</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 668 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1
		<b>Identity:</b> confirmed by MS

<b>2099</b> <b>*NEW*</b>	<b>N-(S)-<i>alpha</i>-Hydroxytetracosanoyl-D-erythro-dihydrosphingosine</b> N-(S)- <i>alpha</i> -Hydroxy-C24:0-sphinganine; N-(S)-Cerebronoyl-dihydroceramide	<b>1 mg</b>
	<b>C<sub>42</sub>H<sub>85</sub>NO<sub>4</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 668 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1
		<b>Identity:</b> confirmed by MS

## Ceramides From Natural Sources



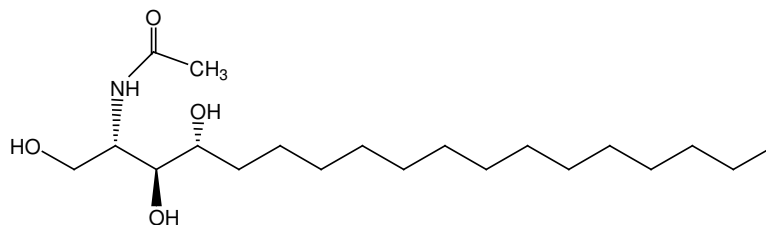
General ceramide structure

<b>1056</b>	<b>Ceramides (mixture)</b> Ceramides with hydroxy and non-hydroxy acyl groups	<b>25 mg</b>
	<b>C<sub>42</sub>H<sub>83</sub>NO<sub>4</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 666 (2-hydroxylignoceroyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1
		<b>CAS#:</b> 104404-17-13
	See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.	

<b>1322</b> <b>1322-05</b>	<b>Ceramides (non-hydroxy)</b> Ceramides with mostly non-hydroxy acyl groups	<b>10 mg</b> <b>50 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>3</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 566 (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> ethanol, chloroform/methanol, 2:1
	See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.	

<b>1323</b> <b>1323-05</b>	<b>Ceramides (hydroxy)</b> Ceramides with mostly hydroxy acyl groups	<b>10 mg</b> <b>50 mg</b>
	<b>C<sub>36</sub>H<sub>71</sub>NO<sub>4</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 582 (2-hydroxystearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 2:1
		<b>Identity:</b> confirmed by MS
	See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.	

## Phytoceramides



<b>1897</b>	<b>N-Acetyl-phytosphingosine</b> N-C2:0-Phytoceramide	<b>5 mg</b>
$C_{20}H_{41}NO_4$	<b>Mol. Wt.:</b> 360	<b>CAS#:</b> 475995-69-8
<b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> )	<b>Purity:</b> 98+% by TLC, HPLC	<b>Identity:</b> confirmed by MS
<b>Appearance:</b> solid	<b>Solubility:</b> ethanol, methanol, warm DMSO, chloroform/methanol, 1:1 (warm)	
<b>Storage:</b> -20°C		
<b>1895</b>	<b>N-Hexanoyl-phytosphingosine</b> N-C6:0-Phytoceramide	<b>5 mg</b>
$C_{24}H_{49}NO_4$	<b>Mol. Wt.:</b> 416	<b>Identity:</b> confirmed by MS
<b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> )	<b>Purity:</b> 98+% by TLC, HPLC	
<b>Appearance:</b> solid	<b>Solubility:</b> ethanol, methanol, chloroform/methanol, 1:1 (warm)	
<b>Storage:</b> -20°C		
<b>1894</b>	<b>N-Octanoyl-phytosphingosine</b> N-C8:0-Phytoceramide	<b>5 mg</b>
$C_{26}H_{53}NO_4$	<b>Mol. Wt.:</b> 444	<b>CAS#:</b> 475995-74-5
<b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> )	<b>Purity:</b> 98+% by TLC, HPLC	<b>Identity:</b> confirmed by MS
<b>Appearance:</b> solid	<b>Solubility:</b> ethanol, methanol, chloroform/methanol, 1:1 (warm)	
<b>Storage:</b> -20°C		
<b>2035</b>	<b>N-Hexadecanoyl-phytosphingosine</b> N-C16:0-Phytoceramide; N-Palmitoyl-phytosphingosine	<b>5 mg</b>
$C_{34}H_{69}NO_4$	<b>Mol. Wt.:</b> 556	<b>Identity:</b> confirmed by MS
<b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> )	<b>Purity:</b> 98+% by TLC, HPLC	
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 5:1	
<b>Storage:</b> -20°C		
<b>2034</b>	<b>N-Octadecanoyl-phytosphingosine</b> N-C18:0-Phytoceramide; N-Stearoyl-phytosphingosine	<b>5 mg</b>
$C_{36}H_{73}NO_4$	<b>Mol. Wt.:</b> 584	<b>CAS#:</b> 34354-88-6
<b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> )	<b>Purity:</b> 98+% by TLC, HPLC	<b>Identity:</b> confirmed by MS
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 1:1 (warm)	
<b>Storage:</b> -20°C		

<b>2135</b> <b>*NEW*</b>	<b>N-(30-Linoleoyloxy-triacontanoyl)-phytosphingosine</b> Ceramide EOP; EOP Ceramide 9	<b>5 mg</b>
	$C_{66}H_{127}NO_6$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 1031 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 4:1
		<b>Identity:</b> confirmed by MS
<b>2036</b>	<b>N-Tetracosanoyl-phytosphingosine</b> N-C24:0-Phytoceramide; N-Lignoceroyl-phytosphingosine	<b>5 mg</b>
	$C_{42}H_{85}NO_4$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 668 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 5:1
		<b>Identity:</b> confirmed by MS
<b>2094</b> <b>*NEW*</b>	<b>N-(R)-<math>\alpha</math>-Hydroxytetracosanoyl-phytosphingosine</b> N-(R)- $\alpha$ -Hydroxy-C24:0-phytoceramide; N-(R)-Cerebronoyl-phytoceramide	<b>1 mg</b>
	$C_{42}H_{85}NO_5$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 684 <b>Purity:</b> 98% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 4:1; warm ethanol
		<b>Identity:</b> confirmed by MS
<b>2095</b> <b>*NEW*</b>	<b>N-(S)-<math>\alpha</math>-Hydroxytetracosanoyl-phytosphingosine</b> N-(S)- $\alpha$ -Hydroxy-C24:0-phytoceramide; N-(S)-Cerebronoyl-phytoceramide	<b>1 mg</b>
	$C_{42}H_{85}NO_5$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 684 <b>Purity:</b> 98% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 4:1; warm ethanol
		<b>Identity:</b> confirmed by MS
<b>2210</b> <b>*NEW*</b>	<b>N-<math>\omega</math>-CD<sub>3</sub>-Octadecanoyl-phytosphingosine</b> N-C18:0-CD <sub>3</sub> -Phytoceramide; N-Stearoyl-CD <sub>3</sub> -phytosphingosine	<b>1 mg</b>
	$C_{36}H_{70}D_3NO_4$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 587 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform, DMF, DMSO
		<b>Identity:</b> confirmed by MS
<b>2211</b> <b>*NEW*</b>	<b>N-Hexanoyl-biotin-phytosphingosine</b> N-C6:0-biotin-Phytoceramide	<b>5 mg</b>
	$C_{34}H_{64}N_4O_6S$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia cifferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 657 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 2:1; DMF
		<b>Identity:</b> confirmed by MS

## Fluorescent Ceramides

Absorption: 460 nm Emission: 535 nm

**1841**      **N-Hexanoyl-NBD-D-erythro-sphingosine**      **100 µg**  
**1841-001**      N-C6:0-NBD-Ceramide; N-C6:0-NBD-D-erythro-Sphingosine      **1 mg**

$C_{30}H_{49}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

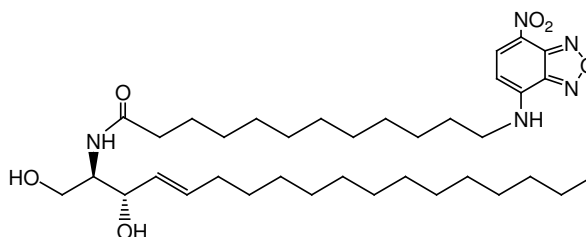
Mol. Wt.: 576

Purity: 98+% by TLC

Solubility: chloroform, ethanol, methanol

CAS#: 86701-10-2

Identity: confirmed by MS



**1618**      **N-Dodecanoyl-NBD-D-erythro-sphingosine**      **100 µg**  
**1618-001**      N-C12:0-NBD-Ceramide; N-C12:0-NBD-D-erythro-Sphingosine      **1 mg**

$C_{36}H_{61}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 660

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 202850-01-9

Identity: confirmed by MS

**1857**      **N-Hexanoyl-NBD-L-threo-sphingosine**      **100 µg**  
**1857-001**      N-C6:0-NBD-Ceramide; N-C6:0-NBD-L-threo-Sphingosine      **1 mg**

$C_{30}H_{49}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 576

Purity: 98+% by TLC

Solubility: chloroform, ethanol, methanol

**1620**      **N-Dodecanoyl-NBD-L-threo-sphingosine**      **100 µg**  
N-C12:0-NBD-Ceramide; N-C12:0-NBD-L-threo-Sphingosine, fluorescent

$C_{36}H_{61}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 660

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 474943-08-3

Identity: confirmed by MS

**1624**      **N-Hexanoyl-NBD-L-threo-dihydro-sphingosine**      **100 µg**  
N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-L-threo-Dihydro-sphingosine

$C_{30}H_{51}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 578

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

**1623**      **N-Dodecanoyl-NBD-L-threo-dihydro-sphingosine**      **100 µg**  
N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-L-threo-Dihydro-sphingosine

$C_{36}H_{63}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 662

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 474943-07-2



**1626 N-Hexanoyl-NBD-D-erythro-dihydrosphingosine** **100 µg**  
 N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-D-erythro-Dihydrosphingosine

$C_{30}H_{51}N_5O_6$  **Mol. Wt.:** 578 **CAS#:** 114301-95-0  
**Source:** synthetic **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

**1625 N-Dodecanoyl-NBD-D-erythro-dihydrosphingosine** **100 µg**  
 N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-D-erythro-Dihydrosphingosine

$C_{36}H_{63}N_5O_6$  **Mol. Wt.:** 662  
**Source:** synthetic **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

**1628 N-Hexanoyl-NBD-phytosphingosine** **100 µg**  
 N-C6:0-NBD-Phytoceramide; N-C6:0-NBD-Phytosphingosine

$C_{30}H_{51}N_5O_7$  **Mol. Wt.:** 594 **CAS#:** 477239-93-3  
**Source:** semisynthetic, bacteria **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

**1627 N-Dodecanoyl-NBD-phytosphingosine** **100 µg**  
 N-C12:0-NBD-Phytoceramide; N-C12:0-NBD-Phytosphingosine

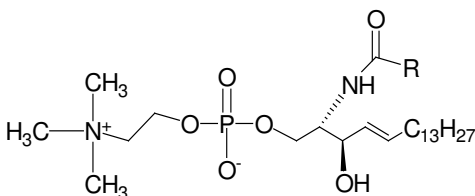
$C_{36}H_{63}N_5O_7$  **Mol. Wt.:** 678 **CAS#:** 388566-94-7  
**Source:** semisynthetic, bacteria **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

See Labeled Standards section (page 96) for additional fluorescent labeled products.

Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical Service for more information. 814-355-1030

## Phosphosphingolipids

### Sphingomyelins



**1051 Sphingomyelin, bovine** **25 mg**  
**1051-1** SPM; Ceramide-1-phosphorylcholine **1 g**

$C_{41}H_{83}N_2O_6P$  **Mol. Wt.:** 731 (stearoyl) **CAS#:** 85187-10-6  
**Source:** natural, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol  
**Storage:** -20°C  
 See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1328 Sphingomyelin, porcine RBC** **25 mg**  
SPM; Ceramide-1-phosphorylcholine

$C_{47}H_{95}N_2O_6P$  **Mol. Wt.:** 815 (lignoceroyl) **CAS#:** 85187-10-6  
**Source:** natural, porcine RBC **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform, ethanol  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

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**1329 Sphingomyelin, bovine buttermilk** **25 mg**  
SPM; Ceramide-1-phosphorylcholine

$C_{46}H_{93}N_2O_6P$  **Mol. Wt.:** 801 (tricosanoyl) **CAS#:** 85187-10-6  
**Source:** natural, bovine buttermilk **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform, ethanol  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

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**1332 Sphingomyelin, egg** **25 mg**  
SPM; Ceramide-1-phosphorylcholine

$C_{39}H_{79}N_2O_6P$  **Mol. Wt.:** 703 (palmitoyl) **Identity:** confirmed by MS  
**Source:** natural, chicken egg **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform, methanol, warm ethanol  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.

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**1907 N-Acetyl-sphingosylphosphorylcholine** **5 mg**  
N-C2:0-Sphingomyelin

$C_{25}H_{51}N_2O_6P$  **Mol. Wt.:** 506  
**Source:** semisynthetic, bovine buttermilk **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$   
**Note:** Mixture of *D-erythro* and *L-threo* isomers

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**1890 N-Heptadecanoyl-sphingosylphosphorylcholine** **5 mg**  
N-C17:0-Sphingomyelin

$C_{40}H_{81}N_2O_6P$  **Mol. Wt.:** 717 **Identity:** confirmed by MS  
**Source:** semisynthetic, bovine buttermilk **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^{\circ}C$   
**Note:** Mixture of *D-erythro* and *L-threo* isomers

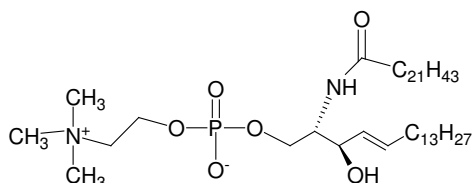
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**1911 N-Octadecanoyl-sphingosylphosphorylcholine** **5 mg**  
N-C18:0-Sphingomyelin; N-Stearoyl-sphingosylphosphorylcholine

$C_{41}H_{83}N_2O_6P$  **Mol. Wt.:** 731 **CAS#:** 58909-84-5  
**Source:** semisynthetic, bovine buttermilk **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^{\circ}C$   
**Note:** Mixture of *D-erythro* and *L-threo* isomers

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<b>1917</b>	<b>N-Eicosanoyl-D-erythro-sphingosylphosphorylcholine</b> N-C20:0-Sphingomyelin	<b>500 µg</b>
$C_{43}H_{87}N_2O_6P$	<b>Mol. Wt.:</b> 759	<b>CAS#:</b> 121999-68-6
<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC	<b>Identity:</b> confirmed by MS
<b>Appearance:</b> solid	<b>Solubility:</b> ethanol, methanol, chloroform/methanol, 14:1	
<b>Storage:</b> -20°C		

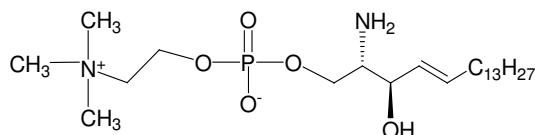


<b>1918</b>	<b>N-Docosanoyl-D-erythro-sphingosylphosphorylcholine</b> N-C22:0-Sphingomyelin	<b>500 µg</b>
$C_{45}H_{91}N_2O_6P$	<b>Mol. Wt.:</b> 787	<b>Identity:</b> confirmed by MS
<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC	
<b>Appearance:</b> solid	<b>Solubility:</b> ethanol, methanol, chloroform/methanol, 14:1	
<b>Storage:</b> -20°C		

<b>2200</b>	<b>N-1-<sup>13</sup>C-Hexadecanoyl-D-erythro-sphingosylphosphorylcholine</b> D-erythro-Sphingomyelin with 1- <sup>13</sup> C-palmitic acid; N-1- <sup>13</sup> C-Palmitoyl-sphingosylphosphorylcholine	<b>1 mg</b>
$C_{38}^{13}CH_{79}N_2O_6P$	<b>Mol. Wt.:</b> 703	
<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC	
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, ethanol, methanol	
<b>Storage:</b> -20°C		

<b>1327</b>	<b>N-Acyl-D-erythro-sphingosylphosphorylethanolamine</b> Ceramide phosphorylethanolamine	<b>5 mg</b>
$C_{43}H_{87}N_2O_6P$	<b>Mol. Wt.:</b> 773 (tricosanoyl)	<b>Identity:</b> confirmed by MS
<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC	
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 2:1	
<b>Storage:</b> -20°C		

## Sphingosylphosphorylcholines (SPC)



<b>1318</b>	<b>D-erythro-Sphingosylphosphorylcholine</b> D-erythro-SPC	<b>5 mg</b>
$C_{23}H_{49}N_2O_5P$	<b>Mol. Wt.:</b> 465	<b>CAS#:</b> 1670-26-4
<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC	<b>Identity:</b> confirmed by MS
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 2:1	
<b>Storage:</b> -20°C		

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**1319**      **L-threo-Sphingosylphosphorylcholine**      **5 mg**  
*L-threo*-SPC

$C_{23}H_{49}N_2O_5P$       **Mol. Wt.:** 465  
**Source:** semisynthetic,      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
   bovine buttermilk  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$

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**1321**      **Sphingosylphosphorylcholine**      **10 mg**  
**1321-05**      *lyso*-Sphingomyelin; SPC (mixture of *D-erythro* and *L-threo* isomers)      **50 mg**

$C_{23}H_{49}N_2O_5P$       **Mol. Wt.:** 465      **CAS#:** 82970-80-7  
**Source:** semisynthetic,      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
   bovine buttermilk  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$

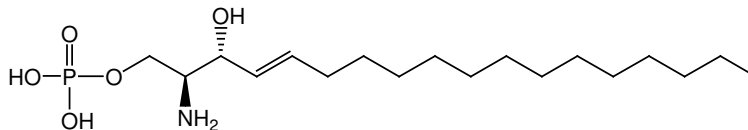
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**1913**      ***lyso*-Dihydrosphingomyelin**      **1 mg**  
Dihydrosphingosylphosphorylcholine (mixture of *D-erythro* and *L-threo* isomers)

$C_{23}H_{51}N_2O_5P$       **Mol. Wt.:** 467  
**Source:** semisynthetic,      **Purity:** 98+% by TLC  
   bovine buttermilk  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$

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## Sphingosine and Ceramide Phosphates



**1803**      **D-erythro-Sphingosine-1-phosphate**      **5 mg**  
S-1-P

$C_{18}H_{38}NO_5P$       **Mol. Wt.:** 380      **CAS#:** 26993-30-6  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform plus a few drops of TFA,  
**Storage:**  $-20^{\circ}C$       chloroform/methanol/40% dimethylamine, 5:15:3, 1mg/ml

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**1852**      **D-erythro-Dihydrosphingosine-1-phosphate**      **5 mg**

$C_{18}H_{40}NO_5P$       **Mol. Wt.:** 382      **CAS#:** 19794-97-9  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** chloroform/methanol/40% dimethylamine, 5:15:3, 1mg/ml  
**Storage:**  $-20^{\circ}C$

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**2046**      **N-Hexadecanoyl-D-erythro-sphingosine-1-phosphate (NH<sub>4</sub><sup>+</sup> salt)**      **5 mg**  
N-C16:0-Ceramide-1-phosphate

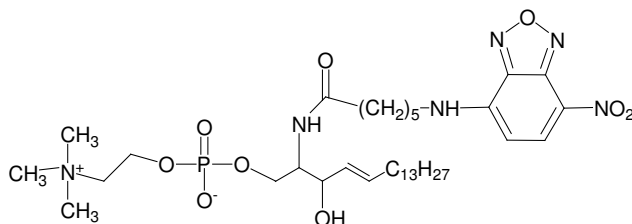
$C_{34}H_{68}NO_6P \cdot NH_3$       **Mol. Wt.:** 618  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol/acetic acid, 60:15:25  
**Storage:**  $-20^{\circ}C$       chloroform/methanol/7.5M ammonium hydroxide 80:20:4

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<b>2206</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-D-erythro-sphingosine-1-phosphate</b> N-C18:0-CD <sub>3</sub> -Ceramide-1-phosphate; N-Stearoyl-CD <sub>3</sub> -C1P	<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>69</sub>D<sub>3</sub>NO<sub>6</sub>P</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 649 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/acetic acid, 60:15:25 chloroform/methanol/7.5M ammonium hydroxide 80:20:4
		<b>Identity:</b> confirmed by MS

## Fluorescent Sphingomyelins

Absorption: 460 nm Emission: 535 nm



<b>1912</b> <b>1912-001</b>	<b>N-Hexanoyl-NBD-sphingosylphosphorylcholine</b> N-C6:0-NBD-Sphingomyelin; N-C6:0-NBD-Sphingosylphosphorylcholine	<b>100 µg</b> <b>1 mg</b>
	<b>C<sub>35</sub>H<sub>61</sub>N<sub>6</sub>O<sub>9</sub>P</b> <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> Mixture of <i>D-erythro</i> and <i>L-threo</i> isomers	<b>Mol. Wt.:</b> 740 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, ethanol, methanol <b>CAS#:</b> 94885-04-8
<b>1619</b> <b>1619-001</b>	<b>N-Dodecanoyl-NBD-sphingosylphosphorylcholine</b> N-C12:0-NBD-Sphingomyelin; N-C12:0-NBD-Sphingosylphosphorylcholine	<b>100 µg</b> <b>1 mg</b>
	<b>C<sub>41</sub>H<sub>73</sub>N<sub>6</sub>O<sub>9</sub>P</b> <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> Mixture of <i>D-erythro</i> and <i>L-threo</i> isomers	<b>Mol. Wt.:</b> 825 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 2:1 <b>CAS#:</b> 254117-01-6 <b>Identity:</b> confirmed by MS

See Labeled Standards section (page 96) for additional fluorescent labeled products.

Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical Service for more information. 814-355-1030

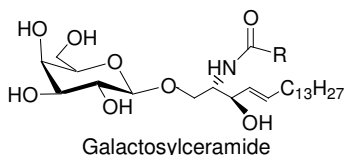
## Glycosphingolipids

Glycosphingolipids are widely distributed in animal and plant tissues. They consist of a ceramide (Cer) bound in glycosidic linkage through the primary hydroxyl to a mono- or oligosaccharide, which may contain substituents such as a sulfate, acetate, or phosphate group. They are amphiphilic and the less glycosylated compounds can be dispersed in buffers by dissolving them in a detergent or organic solvent (EtOH, DMSO, isoPrOH) and mixing by sonication.

Galactosphingolipids, mainly GalCer (cerebrosides) and its sulfate ester, occur in large amounts in the nervous system. Glucosphingolipids, the simplest of which is GlcCer (glucocerebrosides), are very widely distributed, particularly in nerve cell membranes. GlcCer is isolated from a variety of natural sources including human, bovine, and plant. Each of these sources has a heterogeneity in the fatty acid content of the ceramide as well as an occasional variation in the sphingoid chain. Globosides (containing both glucose and galactose) are a prominent group of glycosphingolipids, they contain an  $\alpha$ -linked galactose moiety and are typically located in blood cell membranes. Gangliosides are another prominent group of glycosphingolipids; they are acidic because of substitution with sialic (neuraminic) acid. The glycosphingolipids function in a wide range of enzyme and structural interactions, such as immunological or membrane recognition phenomena, binding of microbial pathogens, hormone and growth factor actions, cancer cell growth and malignancy, atherosclerosis, genetic disease errors, blood group determinants, etc. Tissues change in glycosphingolipid composition during embryogenesis, maturation, aging, and other vital physiological processes. Some glycosphingolipids stimulate cell proliferation, others induce apoptosis, effects of great significance to cancer therapy and maturational development. Marked differences in glycosphingolipid composition are seen in normal and cancerous cells. See references (13-25).

See Literature References on page 109.

## Galactosylceramides



**1050 Cerebrosides, bovine 50 mg**  
Galactosylceramide; Ceramide *beta*-D-galactoside  
Contains both hydroxy and non-hydroxy fatty acid side chains

$C_{48}H_{93}NO_9$  **Mol. Wt.:** 828 (2-hydroxytetracosanoyl) **CAS#:** 85305-88-0  
**Source:** natural, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1; DMSO  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

**1066 Cerebroside; Kerasin (top spot) 10 mg**  
Galactosylceramide with mostly non-hydroxy fatty acid side chain

$C_{48}H_{91}NO_8$  **Mol. Wt.:** 810 (nervonyl, [24:1]) **CAS#:** 536-13-0  
**Source:** natural, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.5  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.

**1138 Cerebroside; Phrenosin (bottom spot) 10 mg**  
Galactosylceramide with mostly 2-hydroxy fatty acid side chains

$C_{42}H_{81}NO_9$  **Mol. Wt.:** 744 (2-hydroxystearoyl) **CAS#:** 37211-11-3  
**Source:** natural, bovine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 2:1:0.5  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

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**1305 Psychosine (free amine form), bovine** **10 mg**  
*lyso-Cerebroside; 1-beta-D-Galactosylsphingosine*

$C_{24}H_{47}NO_7$  **Mol. Wt.:** 461 **CAS#:** 2238-90-6  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol/DI water, 5:1:0.1  
**Storage:** -20°C

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**2087 Psychosine, synthetic** **5 mg**  
*lyso-Cerebroside; 1-beta-D-Galactosylsphingosine*

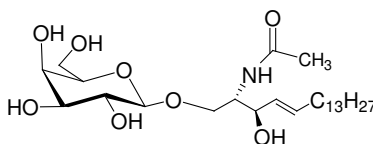
$C_{24}H_{47}NO_7$  **Mol. Wt.:** 461 **CAS#:** 2238-90-6  
**Source:** synthetic **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** ethanol, chloroform/methanol/DI water, 5:1:0.1  
**Storage:** -20°C

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**2091 N-Glycinated galactosylsphingosine** **1 mg**  
**\*NEW\*** N-Glycinated cerebroside; N-Glycinated galactosylceramide; N-Glycinated psychosine

$C_{26}H_{50}N_2O_8$  **Mol. Wt.:** 518 **Identity:** confirmed by MS  
**Source:** synthetic **Purity:** 98+% by TLC **Solubility:** chloroform/methanol, 4:1, ethanol  
**Appearance:** solid **Storage:** -20°C

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**1325 N-Acetyl-psychosine** **10 mg**  
N-C2:0-Cerebroside

$C_{26}H_{49}NO_8$  **Mol. Wt.:** 503 **CAS#:** 35823-61-1  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform, ethanol, methanol  
**Storage:** -20°C

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**1334 N-Octanoyl-beta-D-galactosylceramide** **10 mg**  
N-C8:0-Galactosylceramide

$C_{32}H_{61}NO_8$  **Mol. Wt.:** 588 **CAS#:** 41613-16-5  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 9:1  
**Storage:** -20°C

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**1937 N-Dodecanoyl-beta-D-galactosylceramide** **10 mg**  
**1937-50** N-C12:0-Galactosylceramide; N-Dodecanoyl-beta-D-galactosylsphingosine **50 mg**

$C_{36}H_{69}NO_8$  **Mol. Wt.:** 644 **Identity:** confirmed by MS  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC, HPLC  
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 9:1  
**Storage:** -20°C

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**1335 N-Pentadecanoyl-psychosine** **5 mg**  
N-C15:0-Cerebroside

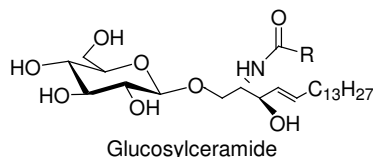
$C_{39}H_{75}NO_8$  **Mol. Wt.:** 686  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/ methanol, 2:1  
**Storage:** -20°C

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<b>1914</b>	<b>N-Octadecanoyl-D<sub>35</sub>-psychosine, (perdeuterated, C18:0 fatty acid)</b> N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated; N-Stearoyl-D <sub>35</sub> -psychosine, perdeuterated	<b>5 mg</b>
	<b>C<sub>42</sub>H<sub>46</sub>D<sub>35</sub>NO<sub>8</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Activity:</b> Deuterium labeled stearoyl side chain	<b>Mol. Wt.:</b> 763 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, hot ethanol, chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS
<b>1621</b>	<b>N-Hexanoyl-NBD-galactosylceramide</b> N-C6:0-NBD- <i>beta</i> -D-Galactosylsphingosine; N-C6:0-NBD-Cerebroside; N-C6:0-NBD-Galactosylceramide, fluorescent; N-(NBD-Aminocaproyl)-D-galactosylsphingosine	<b>100 µg</b>
	<b>C<sub>36</sub>H<sub>59</sub>N<sub>5</sub>O<sub>11</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 738 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 5:1 <b>CAS#:</b> 170212-26-7 <b>Identity:</b> confirmed by MS
<b>1633</b> <b>1633-001</b>	<b>N-Dodecanoyl-NBD-galactosylceramide</b> N-C12:0-NBD- <i>beta</i> -D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside	<b>100 µg</b> <b>1 mg</b>
	<b>C<sub>42</sub>H<sub>71</sub>N<sub>5</sub>O<sub>11</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Absorption:</b> 460 nm	<b>Mol. Wt.:</b> 822 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, DMSO, chloroform/methanol, 2:1 <b>Emission:</b> 535 nm <b>CAS#:</b> 474942-98-8 <b>Identity:</b> confirmed by MS
<b>2204</b>	<b>Lissamine-rhodamine B-dodecanoyl-galactosylceramide</b> Sulforhodamine B-C12:0 cerebroside	<b>500 µg</b>
	<b>C<sub>63</sub>H<sub>99</sub>N<sub>4</sub>O<sub>14</sub>S<sub>2</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Absorption:</b> 540 nm	<b>Mol. Wt.:</b> 1201 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 8:2, DMSO, DMF <b>Emission:</b> 565 nm <b>Identity:</b> confirmed by MS
<b>2203</b>	<b>N-Hexanoyl-biotin-galactosylceramide</b> N-C6:0-biotin- <i>beta</i> -D-Galactosylsphingosine; N-C6:0-biotin-Cerebroside	<b>5 mg</b>
	<b>C<sub>40</sub>H<sub>72</sub>N<sub>4</sub>O<sub>10</sub>S</b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 801 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1, methanol, DMF <b>Identity:</b> confirmed by MS
<b>1946</b>	<b>N-(1-Adamantaneacetyl)-galactosylceramide</b> N-(1-Adamantaneacetyl)-galactocerebroside	<b>5 mg</b>
	<b>C<sub>36</sub>H<sub>63</sub>NO<sub>8</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Activity:</b> Inhibitor of glucosylceramide, sulfatide, and globotriaosylceramide (Gb <sub>3</sub> ) synthesis	<b>Mol. Wt.:</b> 638 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, methanol, chloroform/methanol 9:1 <b>Identity:</b> confirmed by MS



## Glucosylceramides

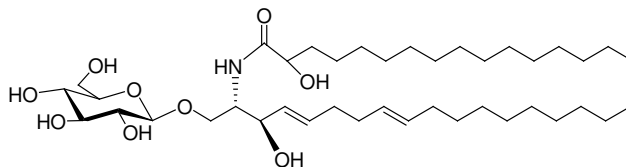


**1057**      **Glucocerebrosides, Gaucher's spleen**      **5 mg**  
**1057-25**      Glucosylceramide; Ceramide *beta*-D-glucoside      **25 mg**

$C_{48}H_{93}NO_8$       **Mol. Wt.:** 812 (lignoceryl)      **CAS#:** 85305-87-9  
**Source:** natural, human      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$   
 See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.

**1521**      **Glucocerebrosides, buttermilk**      **5 mg**  
**1521-50**      Glucosylceramide; Ceramide *beta*-D-glucoside      **50 mg**

$C_{46}H_{89}NO_8$       **Mol. Wt.:** 784 (docosanoyl)      **Identity:** confirmed by MS  
**Source:** natural, bovine buttermilk      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$   
 See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.



**1522**      **Glucocerebrosides, plant**      **5 mg**  
**1522-100**      Glucosylceramide; Ceramide *beta*-D-glucoside      **100 mg**

$C_{40}H_{75}NO_9$       **Mol. Wt.:** 714 (2-hydroxyhexadecanoyl)      **CAS#:** 497155-61-0  
**Source:** natural, plant      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$   
 Sphingoid backbone is >95% 4,8-sphingadiene (d18:2 t,t-4,8) and most of the fatty acids are of the 2-hydroxy type.  
 See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.

**2086**      **Glucosylsphingosine, synthetic**      **5 mg**  
*lyso*-Glucocerebroside; 1-*beta*-D-Glucosylsphingosine; Glucosylpsychosine

$C_{24}H_{47}NO_7$       **Mol. Wt.:** 461      **CAS#:** 52050-17-6  
**Source:** synthetic      **Purity:** 98+% by TLC, HPLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** ethanol, methanol, chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$

**2209**       **$^{13}C_6$ -Glucosylsphingosine**      **1 mg**  
**\*NEW\***      1-(*beta*-D-Glucosyl-1,2,3,4,5,6- $^{13}C_6$ )-sphingosine;  $^{13}C_6$ -*lyso*-Glucocerebroside

$C_{18}^{13}C_6H_{47}NO_7$       **Mol. Wt.:** 468  
**Source:** synthetic      **Purity:** 98+% by TLC, HPLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** ethanol, methanol, chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$



**1622**      **N-Hexanoyl-NBD-glucosylceramide**      **100 µg**  
**1622-001**      N-C6:0-NBD-*beta*-D-Glucosylsphingosine;  
 N-C6:0-NBD-Glucosylceramide, fluorescent      **1 mg**

$C_{36}H_{59}N_5O_{11}$       **Mol. Wt.:** 738      **CAS#:** 94885-03-7  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** methanol, chloroform/methanol, 5:1  
**Storage:** -20°C  
**Absorption:** 460 nm      **Emission:** 535 nm

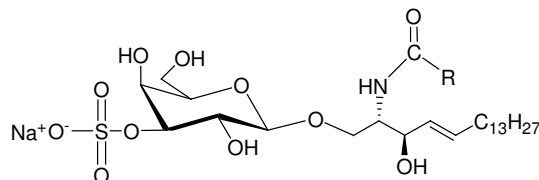
**2085**      **N-Hexanoyl-biotin-glucosylceramide**      **5 mg**  
 N-C6:0-biotin-*beta*-D-Glucosylsphingosine; N-C6:0-biotin-Glucosylceramide

$C_{40}H_{72}N_4O_{10}S$       **Mol. Wt.:** 801  
**Source:** semisynthetic, plant      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol 2:1, methanol, DMF  
**Storage:** -20°C

**1945**      **N-(1-Adamantaneacetyl)-glucosylceramide**      **5 mg**  
 N-(1-Adamantaneacetyl)-glucocerebroside

$C_{36}H_{61}NO_8$       **Mol. Wt.:** 636  
**Source:** semisynthetic, plant      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, methanol, chloroform/methanol, 9:1  
**Storage:** -20°C  
**Activity:** Inhibitor of glucocerebrosidase and lactosylceramide synthase

## Sulfatides (Sulfogalactosylceramides)



**1049**      **Sulfatides (Na<sup>+</sup> salt), bovine**      **50 mg**  
 Ceramide-galactoside-3-sulfate; Cerebroside sulfate

$C_{42}H_{80}NNaO_{11}S$       **Mol. Wt.:** 830 (stearoyl) Na<sup>+</sup> salt      **CAS#:** 85496-63-5  
**Source:** natural, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** DMSO, chloroform/methanol/DI water, 2:1:0.1  
 (if needed, a few drops of acetic acid)  
**Storage:** -20°C  
 See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

**1904**      ***lyso*-Sulfatide (NH<sub>4</sub><sup>+</sup> salt)**      **1 mg**  
 Sphingosine-1-galactoside-3-sulfate

$C_{24}H_{47}NO_{10}S \cdot NH_3$       **Mol. Wt.:** 542      **CAS#:** 38621-58-8  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

**2092**      **N-Glycinated *lyso*-sulfatide**      **1 mg**  
**\*NEW\***      N-Glycinated sphingosine-1-galactoside-3-sulfate

$C_{26}H_{50}N_2O_{11}S$       **Mol. Wt.:** 599  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol/DI water, 70:30:4; ethanol  
**Storage:** -20°C

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**2076 N-Acetyl-sulfatide** **1 mg**  
N-C2:0-Sulfatide; N-Acetyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>26</sub>H<sub>49</sub>NO<sub>11</sub>S** **Mol. Wt.: 584**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** ethanol, methanol, chloroform/methanol, 1:1  
**Storage:** -20°C

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**1938 N-Dodecanoyl-sulfatide** **1 mg**  
N-C12:0-Sulfatide; N-Dodecanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>36</sub>H<sub>69</sub>NO<sub>11</sub>S** **Mol. Wt.: 724**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol, 9:1, DMF  
**Storage:** -20°C

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**1875 N-Hexadecanoyl-sulfatide** **1 mg**  
N-C16:0-Sulfatide; N-Palmitoyl-sulfatide;  
N-Palmitoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>40</sub>H<sub>77</sub>NO<sub>11</sub>S** **Mol. Wt.: 780**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

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**1934 N-Heptadecanoyl-sulfatide** **1 mg**  
N-C17:0-Sulfatide; N-Heptadecanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>41</sub>H<sub>79</sub>NO<sub>11</sub>S** **Mol. Wt.: 794**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol, 5:1, DMSO, DMF  
**Storage:** -20°C

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**1932 N-Octadecanoyl-sulfatide** **1 mg**  
N-C18:0-Sulfatide; N-Octadecanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>42</sub>H<sub>81</sub>NO<sub>11</sub>S** **Mol. Wt.: 808** **CAS#:** 244215-65-4  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 5:1  
**Storage:** -20°C

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**1933 N-Octadecenoyl-(*cis*-9)-sulfatide** **1 mg**  
N-C18:1-Sulfatide; N-Octadecenoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>42</sub>H<sub>79</sub>NO<sub>11</sub>S** **Mol. Wt.: 806**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 5:1  
**Storage:** -20°C

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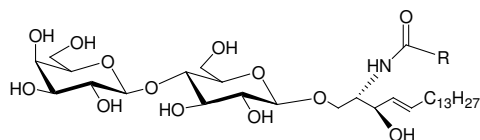
**1935 N-Nonadecanoyl-sulfatide** **1 mg**  
N-C19:0-Sulfatide; N-Nonadecanoyl-sphingosyl-*beta*-D-galactoside-3-sulfate

**C<sub>43</sub>H<sub>83</sub>NO<sub>11</sub>S** **Mol. Wt.: 822**  
**Source:** semisynthetic, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol, 5:1, DMSO, DMF  
**Storage:** -20°C

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<b>1888</b>	<b>N-Tetracosanoyl-sulfatide</b> N-C24:0-Sulfatide; N-Tetracosanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate; N-Lignoceroyl-sulfatide	<b>1 mg</b>
	$C_{48}H_{93}NO_{11}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 892 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 5:1
		<b>Identity:</b> confirmed by MS
<b>1931</b>	<b>N-Tetracosenoyl-(<i>cis</i>-15)-sulfatide</b> N-Nervonyl-sulfatide; N-C24:1-Sulfatide; N-Tetracosenoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	<b>1 mg</b>
	$C_{48}H_{91}NO_{11}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 890 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 5:1
		<b>Identity:</b> confirmed by MS
<b>1536</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-sulfatide</b> N-C18:0-CD <sub>3</sub> -Sulfatide; N-Stearoyl-CD <sub>3</sub> -sulfatide	<b>1 mg</b>
	$C_{42}H_{78}D_3NO_{11}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 811 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
		<b>Identity:</b> confirmed by MS
<b>1632</b> <b>1632-001</b>	<b>N-Dodecanoyl-NBD-sulfatide</b> N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD- <i>lyso</i> -sulfatide; N-Dodecanoyl-NBD-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	<b>100 µg</b> <b>1 mg</b>
	$C_{42}H_{71}N_5O_{14}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Absorption:</b> 460 nm	<b>Mol. Wt.:</b> 901 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1 <b>Emission:</b> 535 nm
<b>2207</b>	<b>N-Hexanoyl-biotin-sulfatide</b> N-C6:0-biotin-Sulfatide; N-Hexanoyl-biotin-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	<b>1 mg</b>
	$C_{40}H_{72}N_4O_{13}S_2$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 881 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/water 2:1:0.1; methanol/water 9:1; DMF
		<b>Identity:</b> confirmed by MS
<b>1540</b> <b>*NEW*</b>	<b>N-Octadecanoyl-sulfated-lactosylceramide</b> SM3; N-Octadecanoyl-lactosylceramide-3'-sulfate; N-Octadecanoyl-lactosylceramide sulfatide	<b>1 mg</b>
	$C_{48}H_{91}NO_{16}S$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 970 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
		<b>Identity:</b> confirmed by MS

## Lactosylceramides



**1500 Lactosylceramides, porcine RBC** **1 mg**  
 LC; Lactocerebrosides; CDH; Ceramide *beta*-lactoside

**C<sub>48</sub>H<sub>91</sub>NO<sub>13</sub>** **Mol. Wt.:** 890 (stearoyl) **CAS#:** 4682-48-8  
**Source:** natural, porcine RBC **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** DMSO, chloroform/methanol/DI water, 5:1:0.1  
**Storage:** -20°C  
 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.

**1507 Lactosylceramides, bovine buttermilk** **5 mg**  
**1507-50** LC; Lactocerebrosides; CDH; Ceramide *beta*-lactoside **50 mg**

**C<sub>53</sub>H<sub>101</sub>NO<sub>13</sub>** **Mol. Wt.:** 960 (tricosanoyl) **CAS#:** 4682-48-8  
**Source:** natural, bovine buttermilk **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 5:1:0.1  
**Storage:** -20°C  
 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.

**2088 *lyso*-Lactosylceramide, synthetic** **1 mg**  
 Lactosylsphingosine; 1-*beta*-Lactosyl-sphing-4-enine; *lyso*-LC

**C<sub>30</sub>H<sub>57</sub>NO<sub>12</sub>** **Mol. Wt.:** 623 **Identity:** confirmed by MS  
**Source:** synthetic **Purity:** 98+% by TLC **Solubility:** chloroform/methanol/DI water, 2:1:0.1, DI water, DMSO  
**Appearance:** solid **Storage:** -20°C

**1517 *lyso*-Lactosylceramide, bovine buttermilk** **1 mg**  
 Lactosylsphingosine; *lyso*-LC

**C<sub>30</sub>H<sub>57</sub>NO<sub>12</sub>** **Mol. Wt.:** 623 **Identity:** confirmed by MS  
**Source:** semisynthetic, bovine buttermilk **Purity:** 98+% by TLC **Solubility:** chloroform/methanol/DI water, 2:1:0.1  
**Appearance:** solid **Storage:** -20°C

**2090 *\*NEW\** N-Glycinated lactosylsphingosine** **1 mg**  
 N-Glycinated *lyso*-lactosylceramide; N-Glycine 1-*beta*-lactosyl-sphing-4-enine

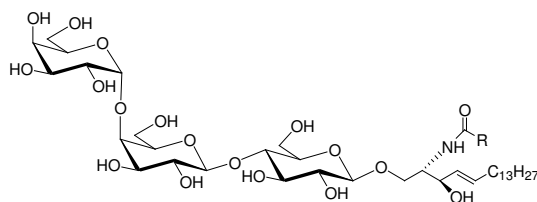
**C<sub>32</sub>H<sub>60</sub>N<sub>2</sub>O<sub>13</sub>** **Mol. Wt.:** 681 **Identity:** confirmed by MS  
**Source:** synthetic **Purity:** 98+% by TLC **Solubility:** chloroform/methanol/DI water, 2:1:0.1; DI water; DMSO  
**Appearance:** solid **Storage:** -20°C

**1532 N-Hexadecanoyl-lactosylceramide** **1 mg**  
 N-C16:0-Lactosylceramide; N-Palmitoyl-lactosylceramide

**C<sub>46</sub>H<sub>87</sub>NO<sub>13</sub>** **Mol. Wt.:** 862 **Identity:** confirmed by MS  
**Source:** semisynthetic, bovine buttermilk **Purity:** 98+% by TLC **Solubility:** chloroform/methanol/DI water, 2:1:0.1  
**Appearance:** solid **Storage:** -20°C

<b>1534</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Hexadecanoyl-lactosylceramide</b>	<b>1 mg</b>
	N-C16:0-CD <sub>3</sub> -Lactosylceramide; N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	
	C <sub>46</sub> H <sub>84</sub> D <sub>3</sub> NO <sub>13</sub>	<b>Mol. Wt.:</b> 865
	<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol/DI water, 5:1:0.1
	<b>Storage:</b> -20°C	<b>Identity:</b> confirmed by MS
<b>1538</b>	<b>N-Heptadecanoyl-lactosylceramide</b>	<b>1 mg</b>
	N-C17:0-Lactosylceramide; Lactosylceramide with C17:0 fatty acid side chain	
	C <sub>47</sub> H <sub>89</sub> NO <sub>13</sub>	<b>Mol. Wt.:</b> 876
	<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
	<b>Storage:</b> -20°C	<b>CAS#:</b> 1354699-26-5 <b>Identity:</b> confirmed by MS
<b>1629</b> <b>1629-001</b>	<b>N-Hexanoyl-NBD-lactosylceramide</b>	<b>50 µg</b> <b>1 mg</b>
	N-Hexanoyl-NBD- <i>beta</i> -D-lactosylsphingosine; N-C6:0-NBD- <i>beta</i> -D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide	
	C <sub>42</sub> H <sub>69</sub> N <sub>5</sub> O <sub>16</sub>	<b>Mol. Wt.:</b> 900
	<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 2:1
	<b>Storage:</b> -20°C	<b>Emission:</b> 535 nm
	<b>Absorption:</b> 460 nm	<b>CAS#:</b> 474943-04-9 <b>Identity:</b> confirmed by MS
<b>1630</b> <b>1630-001</b>	<b>N-Dodecanoyl-NBD-lactosylceramide</b>	<b>50 µg</b> <b>1 mg</b>
	N-Dodecanoyl-NBD- <i>beta</i> -D-lactosylsphingosine; N-C12:0-NBD- <i>beta</i> -D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide	
	C <sub>48</sub> H <sub>81</sub> N <sub>5</sub> O <sub>16</sub>	<b>Mol. Wt.:</b> 984
	<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 2:1
	<b>Storage:</b> -20°C	<b>Emission:</b> 535 nm
	<b>Absorption:</b> 460 nm	<b>CAS#:</b> 474943-06-1
<b>2205</b>	<b>N-Hexanoyl-biotin-lactosylceramide</b>	<b>1 mg</b>
	N-C6:0-biotin- <i>beta</i> -D-Lactosylceramide	
	C <sub>46</sub> H <sub>82</sub> N <sub>4</sub> O <sub>15</sub> S	<b>Mol. Wt.:</b> 963
	<b>Source:</b> semisynthetic, bovine buttermilk	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol, 9:1, DMSO, DMF
	<b>Storage:</b> -20°C	<b>Identity:</b> confirmed by MS
<b>1540</b> <b>*NEW*</b>	<b>N-Octadecanoyl-sulfated-lactosylceramide</b>	<b>1 mg</b>
	SM3; N-Octadecanoyl-lactosylceramide-3'-sulfate; N-Octadecanoyl-lactosylceramide sulfatide	
	C <sub>48</sub> H <sub>91</sub> NO <sub>16</sub> S	<b>Mol. Wt.:</b> 970
	<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC
	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
	<b>Storage:</b> -20°C	<b>Identity:</b> confirmed by MS

## Ceramide Trihexosides (Globotriaosylceramides)



<b>1067</b> <b>1067-10</b>	<b>Ceramide trihexosides</b> CTH; Gb <sub>3</sub> ; Globotriaosylceramide		<b>1 mg</b> <b>10 mg</b>
	<b>C<sub>60</sub>H<sub>113</sub>NO<sub>18</sub></b> <b>Source:</b> natural, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1137 (tetracosanoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> DMSO, hot methanol, chloroform/methanol, 2:1	<b>CAS#:</b> 71965-57-6 <b>Identity:</b> confirmed by MS
<b>1513</b>	<b>Ceramide trihexosides (top spot)</b> CTH with non-hydroxy fatty acid side chain		<b>500 µg</b>
	<b>C<sub>54</sub>H<sub>101</sub>NO<sub>18</sub></b> <b>Source:</b> natural, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1052 (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1	<b>Identity:</b> confirmed by MS
<b>1514</b>	<b>Ceramide trihexosides (bottom spot)</b> CTH with hydroxy fatty acid side chain		<b>500 µg</b>
	<b>C<sub>60</sub>H<sub>113</sub>NO<sub>19</sub></b> <b>Source:</b> natural, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1153 (2-hydroxytetracosanoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> DMSO, hot methanol, chloroform/methanol, 1:1	<b>Identity:</b> confirmed by MS
<b>1520</b>	<b>lyso-Ceramide trihexoside</b> <i>lyso</i> -CTH; <i>lyso</i> -Globotriaosylsphingosine		<b>1 mg</b>
	<b>C<sub>36</sub>H<sub>67</sub>NO<sub>17</sub></b> <b>Source:</b> semisynthetic, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 786 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; DMSO	<b>CAS#:</b> 126550-86-5 <b>Identity:</b> confirmed by MS
<b>1530</b>	<b>N-Glycinated lyso-ceramide trihexoside</b> N-Glycinated globotriaosylsphingosine		<b>1 mg</b>
	<b>C<sub>38</sub>H<sub>70</sub>N<sub>2</sub>O<sub>18</sub></b> <b>Source:</b> semisynthetic, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 843 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1	<b>Identity:</b> confirmed by MS
<b>1528</b>	<b>N-Hexadecanoyl-ceramide trihexoside</b> N-C16:0-Ceramide trihexoside; N-Hexadecanoyl globotriaosylceramide		<b>500 µg</b>
	<b>C<sub>52</sub>H<sub>97</sub>NO<sub>18</sub></b> <b>Source:</b> semisynthetic, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1024 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> DMSO, hot methanol, chloroform/methanol, 2:1	<b>Identity:</b> confirmed by MS



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**1523 N-Heptadecanoyl-ceramide trihexoside 500 µg**  
N-C17:0-Ceramide trihexoside; N-Heptadecanoyl globotriaosylceramide

**C<sub>53</sub>H<sub>99</sub>NO<sub>18</sub>** **Mol. Wt.:** 1038 **CAS#:** 536745-81-0  
**Source:** semisynthetic, porcine RBC **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1529 N-Octadecanoyl-ceramide trihexoside 500 µg**  
N-C18:0-Ceramide trihexoside; N-Octadecanoyl globotriaosylceramide

**C<sub>54</sub>H<sub>101</sub>NO<sub>18</sub>** **Mol. Wt.:** 1052 **Identity:** confirmed by MS  
**Source:** semisynthetic, porcine RBC **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1524 N-Tricosanoyl-ceramide trihexoside 500 µg**  
N-C23:0-Ceramide trihexoside; N-Tricosanoyl globotriaosylceramide

**C<sub>59</sub>H<sub>111</sub>NO<sub>18</sub>** **Mol. Wt.:** 1122 **CAS#:** 536745-84-3  
**Source:** semisynthetic, porcine RBC **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1631 N-Dodecanoyl-NBD-ceramide trihexoside 100 µg**  
**1631-001** N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide **1 mg**

**C<sub>54</sub>H<sub>91</sub>N<sub>5</sub>O<sub>21</sub>** **Mol. Wt.:** 1145 **Identity:** confirmed by MS  
**Source:** semisynthetic, porcine RBC **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C **Emission:** 535 nm  
**Absorption:** 460 nm

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**1537 N-omega-CD<sub>3</sub>-Octadecanoyl-ceramide trihexoside 500 µg**  
N-C18:0-CD<sub>3</sub>-CTH; N-C18:0-CD<sub>3</sub>-Gb<sub>3</sub>;  
N-Octadecanoyl-CD<sub>3</sub>-globotriaosylceramide;  
N-Stearoyl-CD<sub>3</sub>-ceramide trihexoside

**C<sub>54</sub>H<sub>98</sub>D<sub>3</sub>NO<sub>18</sub>** **Mol. Wt.:** 1055 **Identity:** confirmed by MS  
**Source:** semisynthetic, porcine RBC **Purity:** 98+% by TLC, HPLC  
**Appearance:** solid **Solubility:** DMSO, chloroform/methanol, 2:1  
**Storage:** -20°C

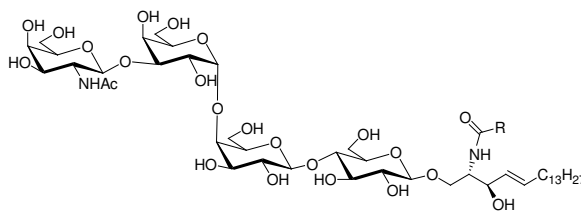
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**1947 N-(1-Adamantaneacetyl)-ceramide trihexoside 1 mg**  
N-Adamantyl-globotriaosylceramide; AdaGb<sub>3</sub>

**C<sub>48</sub>H<sub>83</sub>N<sub>4</sub>O<sub>18</sub>** **Mol. Wt.:** 962 **Identity:** confirmed by MS  
**Source:** semisynthetic, porcine **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1, methanol, DMF  
**Storage:** -20°C

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## Globosides



**1068**      **Globosides**      **5 mg**  
 Gb<sub>4</sub>; Globotetrahexosylceramide

**C<sub>68</sub>H<sub>126</sub>N<sub>2</sub>O<sub>23</sub>**      **Mol. Wt.:** 1340 (tetracosanoyl)      **CAS#:** 11034-93-8  
**Source:** natural, porcine RBC      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C  
 See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

**1541**      **lyso-Globoside**      **1 mg**  
 \*NEW\*      lyso-Gb<sub>4</sub>; lyso-Globotetrahexosylceramide

**C<sub>44</sub>H<sub>80</sub>N<sub>2</sub>O<sub>22</sub>**      **Mol. Wt.:** 989  
**Source:** semisynthetic, porcine RBC      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol/water, 2:1:0.1  
**Storage:** -20°C

## Stable Isotope Labeled Glycolipids

**1914**      **N-Octadecanoyl-D<sub>35</sub>-psychosine, (perdeuterated, C18:0 fatty acid)**      **5 mg**  
 N-C18:0-D<sub>35</sub>-Cerebroside, perdeuterated; N-Stearoyl-D<sub>35</sub>-psychosine, perdeuterated

**C<sub>42</sub>H<sub>46</sub>D<sub>35</sub>NO<sub>8</sub>**      **Mol. Wt.:** 763  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, hot ethanol, chloroform/methanol, 2:1  
**Storage:** -20°C  
**Activity:** Deuterium labeled stearoyl side chain

**2209**      **<sup>13</sup>C<sub>6</sub>-Glucosylsphingosine**      **1 mg**  
 \*NEW\*      1-(beta-D-Glucosyl-1,2,3,4,5,6-<sup>13</sup>C<sub>6</sub>)-sphingosine; <sup>13</sup>C<sub>6</sub>-lyso-Glucocerebroside

**C<sub>18</sub><sup>13</sup>C<sub>6</sub>H<sub>47</sub>NO<sub>7</sub>**      **Mol. Wt.:** 468  
**Source:** synthetic      **Purity:** 98+% by TLC, HPLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** ethanol, methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

**1533**      **N-omega-CD<sub>3</sub>-Hexadecanoyl-glucopsychosine**      **1 mg**  
 N-C16:0-CD<sub>3</sub>-Glucopsychosine; N-C16:0-CD<sub>3</sub>-Glucocerebroside;  
 N-Palmitoyl-CD<sub>3</sub>-glucopsychosine

**C<sub>40</sub>H<sub>74</sub>D<sub>3</sub>NO<sub>8</sub>**      **Mol. Wt.:** 703  
**Source:** semisynthetic, bovine buttermilk      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

<b>1536</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-sulfatide</b> N-C18:0-CD <sub>3</sub> -Sulfatide; N-Stearoyl-CD <sub>3</sub> -sulfatide	<b>1 mg</b>
	$C_{42}H_{78}D_3NO_{11}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 811 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
		<b>Identity:</b> confirmed by MS
<b>1534</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Hexadecanoyl-lactosylceramide</b> N-C16:0-CD <sub>3</sub> -Lactosylceramide; N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	<b>1 mg</b>
	$C_{46}H_{84}D_3NO_{13}$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 865 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 5:1:0.1
		<b>Identity:</b> confirmed by MS
<b>1537</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-ceramide trihexoside</b> N-C18:0-CD <sub>3</sub> -CTH; N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub> ; N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide; N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	<b>500 µg</b>
	$C_{54}H_{98}D_3NO_{18}$ <b>Source:</b> semisynthetic, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1055 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> DMSO, chloroform/methanol, 2:1
		<b>Identity:</b> confirmed by MS

## Fluorescent Glycolipids

Absorption: 460 nm Emission: 535 nm

<b>1621</b>	<b>N-Hexanoyl-NBD-galactosylceramide</b> N-C6:0-NBD- <i>beta</i> -D-Galactosylsphingosine; N-C6:0-NBD-Cerebroside; N-C6:0-NBD-Galactosylceramide, fluorescent; N-(NBD-Aminocaproyl)-D-galactosylsphingosine	<b>100 µg</b>
	$C_{36}H_{59}N_5O_{11}$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 738 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 5:1
		<b>CAS#:</b> 170212-26-7
<b>1633</b> <b>1633-001</b>	<b>N-Dodecanoyl-NBD-galactosylceramide</b> N-C12:0-NBD- <i>beta</i> -D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside	<b>100 µg</b> <b>1 mg</b>
	$C_{42}H_{71}N_5O_{11}$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 822 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, DMSO, chloroform/methanol, 2:1
		<b>CAS#:</b> 474942-98-8 <b>Identity:</b> confirmed by MS
<b>1622</b> <b>1622-001</b>	<b>N-Hexanoyl-NBD-glucosylceramide</b> N-C6:0-NBD- <i>beta</i> -D-Glucosylsphingosine; N-C6:0-NBD-Glucosylceramide, fluorescent	<b>100 µg</b> <b>1 mg</b>
	$C_{36}H_{59}N_5O_{11}$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 738 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 5:1
		<b>CAS#:</b> 94885-03-7 <b>Identity:</b> confirmed by MS

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**1632**      **N-Dodecanoyl-NBD-sulfatide**      **100 µg**  
**1632-001**      N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD-*lyso*-sulfatide;  
N-Dodecanoyl-NBD-sphingosyl-*beta*-D-galactoside-3-sulfate      **1 mg**

$C_{42}H_{71}N_5O_{14}S$       **Mol. Wt.:** 901  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

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**1629**      **N-Hexanoyl-NBD-lactosylceramide**      **50 µg**  
**1629-001**      N-Hexanoyl-NBD-*beta*-D-lactosylsphingosine;  
N-C6:0-NBD-*beta*-D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide      **1 mg**

$C_{42}H_{69}N_5O_{16}$       **Mol. Wt.:** 900      **CAS#:** 474943-04-9  
**Source:** semisynthetic,      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
bovine buttermilk  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

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**1630**      **N-Dodecanoyl-NBD-lactosylceramide**      **50 µg**  
**1630-001**      N-Dodecanoyl-NBD-*beta*-D-lactosylsphingosine;  
N-C12:0-NBD-*beta*-D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide      **1 mg**

$C_{48}H_{81}N_5O_{16}$       **Mol. Wt.:** 984      **CAS#:** 474943-06-1  
**Source:** semisynthetic,      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
bovine buttermilk  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** -20°C

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**1631**      **N-Dodecanoyl-NBD-ceramide trihexoside**      **100 µg**  
**1631-001**      N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide      **1 mg**

$C_{54}H_{91}N_5O_{21}$       **Mol. Wt.:** 1145  
**Source:** semisynthetic,      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
porcine RBC  
**Appearance:** solid      **Solubility:** DMSO, hot methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**2204**      **Lissamine-rhodamine B-dodecanoyl-galactosylceramide**      **500 µg**  
Sulforhodamine B-C12:0 cerebroside

$C_{63}H_{99}N_4O_{14}S_2$       **Mol. Wt.:** 1201  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol 8:2, DMSO, DMF  
**Storage:** -20°C  
**Absorption:** 540 nm      **Emission:** 565 nm

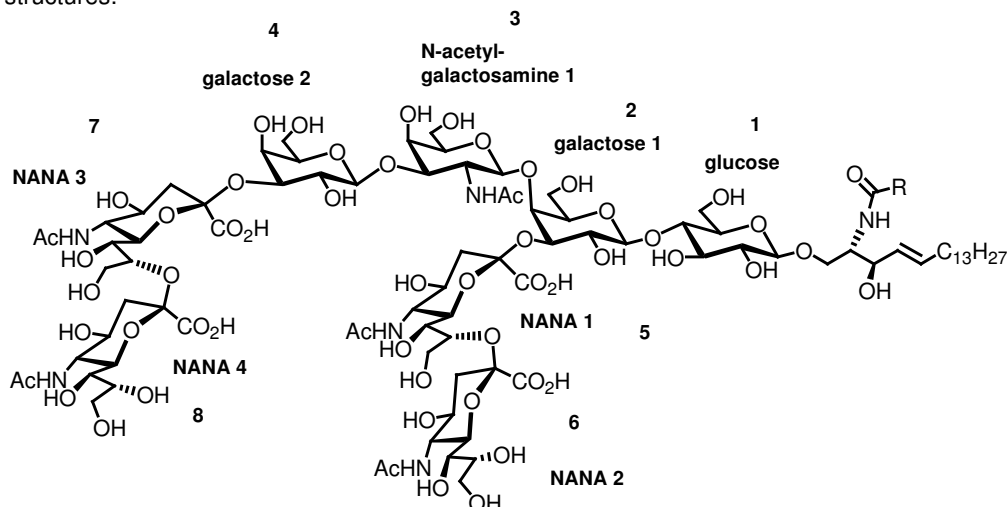
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See Labeled Standards section (page 96) for additional fluorescent labeled products.

Compounds with fluorescent labels other than NBD are available on custom basis. Contact Technical service for more information.      814-355-1030

## Gangliosides

The diagram below can be used with the general formulas given in the ganglioside descriptions to construct the individual structures.



<b>1064</b>	<b>Gangliotetraosylceramide</b> Asialo GM <sub>1</sub> ; Gg4	<b>1 mg</b>
	$C_{62}H_{114}N_2O_{23}$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,4 See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1256 (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>CAS#:</b> 71012-19-6 <b>Identity:</b> confirmed by MS
<b>1512</b>	<b>Gangliotriaosylceramide</b> Asialo GM <sub>2</sub> ; Gg3	<b>100 µg</b>
	$C_{56}H_{104}N_2O_{18}$ <b>Source:</b> semisynthetic, human <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3	<b>Mol. Wt.:</b> 1093 (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>CAS#:</b> 35960-33-9 <b>Identity:</b> confirmed by MS
<b>1061</b> <b>1061-50</b>	<b>Monosialoganglioside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GM <sub>1</sub>	<b>5 mg</b> <b>50 mg</b>
	$C_{73}H_{131}N_3O_{31} \cdot NH_3$ <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,4,5 See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1547 + NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>CAS#:</b> 37758-47-7 <b>Identity:</b> confirmed by MS
<b>1518</b>	<b>lyso-Monosialoganglioside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> lyso-GM <sub>1</sub>	<b>500 µg</b>
	$C_{55}H_{97}N_3O_{30} \cdot NH_3$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1280 + NH <sub>3</sub> <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.2
		<b>CAS#:</b> 171483-40-2 <b>Identity:</b> confirmed by MS

<b>1526</b>	<b>Fucosylated monosialoganglioside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> Fucosyl-GM <sub>1</sub>	<b>500 µg</b>
	<b>C<sub>79</sub>H<sub>141</sub>N<sub>3</sub>O<sub>35</sub>•NH<sub>3</sub></b> <b>Source:</b> natural, porcine <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1693 + NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>CAS#:</b> 71812-11-8 <b>Identity:</b> confirmed by MS
<b>2050</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>1</sub>	<b>500 µg</b>
	<b>C<sub>73</sub>H<sub>128</sub>N<sub>3</sub>O<sub>31</sub>D<sub>3</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1550 + NH <sub>3</sub> <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS
<b>2053</b>	<b>N-Hexanoyl-biotin-monosialoganglioside GM<sub>1</sub></b> Biotin-C6:0-GM <sub>1</sub>	<b>500 µg</b>
	<b>C<sub>71</sub>H<sub>122</sub>N<sub>6</sub>O<sub>33</sub>S</b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1620 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1
		<b>Identity:</b> confirmed by MS
<b>1502</b>	<b>Monosialoganglioside GM<sub>2</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GM <sub>2</sub>	<b>500 µg</b>
	<b>C<sub>67</sub>H<sub>121</sub>N<sub>3</sub>O<sub>26</sub>•NH<sub>3</sub></b> <b>Source:</b> natural, human Tay-Sachs <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,5 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1385+ NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>CAS#:</b> 19600-01-2
<b>2051</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>2</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>2</sub>	<b>250 µg</b>
	<b>C<sub>67</sub>H<sub>118</sub>D<sub>3</sub>N<sub>3</sub>O<sub>26</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, human Tay-Sachs <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1388 + NH <sub>3</sub> <b>Purity:</b> 98+% by TLC, MS <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS
<b>1503</b>	<b>Monosialoganglioside GM<sub>3</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GM <sub>3</sub>	<b>1 mg</b>
	<b>C<sub>64</sub>H<sub>118</sub>N<sub>2</sub>O<sub>21</sub>•NH<sub>3</sub></b> <b>Source:</b> natural, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,5 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1252+ NH <sub>3</sub> (tricosanoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1; forms micellar solution in water
		<b>CAS#:</b> 54827-14-4 <b>Identity:</b> confirmed by MS
<b>2052</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>3</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>3</sub>	<b>250 µg</b>
	<b>C<sub>59</sub>H<sub>105</sub>D<sub>3</sub>N<sub>2</sub>O<sub>21</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1185 + NH <sub>3</sub> <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS

<b>1535</b>	<b>Monosialoganglioside GM<sub>4</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GM <sub>4</sub>	<b>500 µg</b>
	<b>C<sub>57</sub>H<sub>106</sub>N<sub>2</sub>O<sub>17</sub>•NH<sub>3</sub></b> <b>Source:</b> natural, egg, chicken <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 2,5 See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1091+NH <sub>3</sub> (2-hydroxydocosanoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1; forms micellar solution in water
<b>1062</b>	<b>Disialoganglioside GD<sub>1a</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GD <sub>1a</sub>	<b>5 mg</b>
	<b>C<sub>84</sub>H<sub>148</sub>N<sub>4</sub>O<sub>39</sub>•2NH<sub>3</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,4,5,7 See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1838 + 2NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
<b>1501</b>	<b>Disialoganglioside GD<sub>1b</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GD <sub>1b</sub>	<b>1 mg</b>
	<b>C<sub>84</sub>H<sub>148</sub>N<sub>4</sub>O<sub>39</sub>•2NH<sub>3</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,4,5,6 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1838 + 2NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
<b>1527</b>	<b>Disialoganglioside GD<sub>2</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GD <sub>2</sub>	<b>500 µg</b>
	<b>C<sub>78</sub>H<sub>138</sub>N<sub>4</sub>O<sub>34</sub>•2NH<sub>3</sub></b> <b>Source:</b> semisynthetic, rabbit <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,5,6 See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1676 + 2NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
<b>1504</b> <b>1504-25</b>	<b>Disialoganglioside GD<sub>3</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GD <sub>3</sub>	<b>5 mg</b> <b>25 mg</b>
	<b>C<sub>75</sub>H<sub>135</sub>N<sub>3</sub>O<sub>29</sub>•2NH<sub>3</sub></b> <b>Source:</b> natural, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,5,6 See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 1543+2NH <sub>3</sub> (tricosanoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1; forms micellar solution in water
<b>2054</b> <b>*NEW*</b>	<b>N-omega-CD<sub>3</sub>-Octadecanoyl disialoganglioside GD<sub>3</sub></b> N-CD <sub>3</sub> -Stearoyl GD <sub>3</sub>	<b>500 µg</b>
	<b>C<sub>70</sub>H<sub>122</sub>D<sub>3</sub>N<sub>3</sub>O<sub>29</sub></b> <b>Source:</b> semisynthetic bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1476 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1, water <b>Identity:</b> confirmed by MS

<b>2055</b> <b>*NEW*</b>	<b>N-Hexanoyl-biotin-disialoganglioside GD<sub>3</sub></b> Biotin-C6:0-GD <sub>3</sub>	<b>500 µg</b>
	<b>C<sub>68</sub>H<sub>116</sub>N<sub>6</sub>O<sub>31</sub>S</b> <b>Source:</b> semisynthetic bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1546 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1 <b>Identity:</b> confirmed by MS
<b>1063</b>	<b>Trisialoganglioside GT<sub>1b</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GT <sub>1b</sub>	<b>5 mg</b>
	<b>C<sub>95</sub>H<sub>165</sub>N<sub>5</sub>O<sub>47</sub>•3NH<sub>3</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General Formula: 1,2,3,4,5,6,7 See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 2129 + 3NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water <b>CAS#:</b> 59247-13-1 <b>Identity:</b> confirmed by MS
<b>1516</b>	<b>Tetrasialoganglioside GQ<sub>1b</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> GQ <sub>1b</sub>	<b>100 µg</b>
	<b>C<sub>106</sub>H<sub>182</sub>N<sub>6</sub>O<sub>55</sub>•4NH<sub>3</sub></b> <b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Note:</b> General formula: 1,2,3,4,5,6,7,8 See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 2421+4NH <sub>3</sub> (stearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water <b>CAS#:</b> 68652-37-9 <b>Identity:</b> confirmed by MS
<b>1065</b>	<b>Mixed Gangliosides, purified (NH<sub>4</sub><sup>+</sup> salt), bovine</b> Mixed Gangliosides	<b>25 mg</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water Approximately 98% GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> and GT <sub>1b</sub> , remaining 2% other gangliosides
<b>1525</b>	<b>Mixed Gangliosides, purified (NH<sub>4</sub><sup>+</sup> salt), porcine</b>	<b>25 mg</b>
	<b>Source:</b> natural, porcine <b>Appearance:</b> solid <b>Storage:</b> -20°C See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	<b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water Approximately 98% GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> and GT <sub>1b</sub> , remaining 2% other gangliosides

## Glycosphingolipid Reference Mixtures for TLC

These mixtures are qualitative standards prepared from our purified glycosphingolipids.

<b>1505</b>	<b>Neutral Glycosphingolipid Mixture</b> Qualitative mixture	<b>1 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine and porcine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Contains:</b> cerebrosides, lactosylceramides, ceramide trihexosides, globosides.	<b>Solvent:</b> chloroform/methanol, 2:1
<b>1508</b>	<b>Monosialoganglioside Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine, human <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Contains:</b> GM <sub>3</sub> , GM <sub>2</sub> , GM <sub>1</sub>	<b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1



<b>1509</b>	<b>Disialoganglioside Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Contains:</b> GD <sub>3</sub> , GD <sub>1a</sub> , GD <sub>1b</sub>	<b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1
<b>1510</b>	<b>Lactosylceramide and Sialosyl Derivatives Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine buttermilk <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Contains:</b> LC, GM <sub>3</sub> , GD <sub>3</sub>	<b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1
<b>1511</b>	<b>Gangliotetraosylceramide and Sialosyl Derivatives Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Contains:</b> asialo GM <sub>1</sub> , GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> , GT <sub>1b</sub>	<b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1

## Antibodies Directed Against Glycolipids

These monoclonal and polyclonal antibodies are directed against the carbohydrate chains of Matreya's glycolipids. The same carbohydrate moieties are found on many glycoproteins. The antibodies are for use in ELISA or TLC immunoblotting applications (9). All antibodies are quality tested by actual performance in ELISA and TLC immunoblotting. The antibodies contain no preservatives and are shipped on dry ice.

**See Literature References on page 109.**

<b>1977</b>	<b>Anti-ganglioside GD<sub>3</sub></b>	<b>50 µl</b>
	Monoclonal antibody to GD <sub>3</sub> , isotype IgG/IgM  <b>Source:</b> natural, mouse hybridoma R-24 cell line <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for TLC immunoblotting, ELISA	<b>Solubility:</b> DI water  <b>Dry Ice Charge Applies</b>
<b>1950</b>	<b>Anti-ganglioside asialo GM<sub>1</sub></b>	<b>100 µl</b>
	Polyclonal antibody to asialo GM <sub>1</sub> , isotype IgG/IgM  <b>Source:</b> natural, rabbit <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for ELISA, TLC-immunoblotting. Slight cross reaction to GM <sub>1</sub>	<b>Solubility:</b> DI water  <b>Dry Ice Charge Applies</b>
<b>1951</b>	<b>Anti-ganglioside asialo GM<sub>2</sub></b>	<b>50 µl</b>
	Polyclonal antibody to asialo GM <sub>2</sub> , isotype IgG/IgM  <b>Source:</b> natural, rabbit <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for ELISA, TLC-immunoblotting	<b>Solubility:</b> DI water  <b>Dry Ice Charge Applies</b>
<b>1954</b>	<b>Anti-ganglioside GM<sub>1</sub></b>	<b>100 µl</b>
	Polyclonal antibody to GM <sub>1</sub> , isotype IgG/IgM  <b>Source:</b> natural, rabbit <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for ELISA, TLC-immunoblotting. Slight cross reaction to asialo-GM <sub>1</sub>	<b>Solubility:</b> DI water  <b>Dry Ice Charge Applies</b>

<b>1964</b>	<b>Anti-ganglioside GD<sub>1b</sub></b> Polyclonal antibody to GD <sub>1b</sub> , isotype IgG/IgM	<b>50 µl</b>
	<b>Source:</b> natural, rabbit <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for ELISA, TLC-immunoblotting	<b>Solubility:</b> DI water <b>Dry Ice Charge Applies</b>

<b>1960</b>	<b>Anti-globoside GL-4</b> Polyclonal antibody to GL-4, isotype IgG/IgM	<b>50 µl</b>
	<b>Source:</b> natural, rabbit <b>Appearance:</b> liquid <b>Storage:</b> -20°C Suitable for ELISA, TLC-immunoblotting	<b>Solubility:</b> DI water <b>Dry Ice Charge Applies</b>

## Enzyme Inhibitors

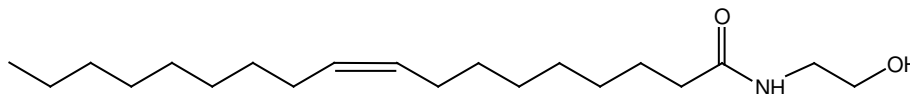
**Ceramide: UDPglucose Transferase.** PDMP (D,L-*threo*-1-phenyl-2-decanoylamino-3-morpholino-1-propanol-HCl) closely resembles the natural sphingolipid substrate of brain glucosyl transferase and is a very potent and competitive inhibitor of the enzyme (26). It has been shown to block outgrowth of neurites in cultured retina and to block glucolipid synthesis in cultured 3T3 cells (27). N.S. Radin and co-workers have shown (28) that PPMP has activity equivalent to that of PDMP when cell homogenates and brain and liver microsomes are used, but it is about 20 times more potent when used with intact cells. In another paper (29), Radin's group has shown that PDMP has substantial activity against Ehrlich ascites tumors in mice. Recent publications from the laboratory of Myles Cabot (30, 31) show that PPMP can reverse multi-drug resistance in cancer cells by causing a build-up of ceramide and preventing the synthesis of glycosylated ceramides. **See Literature References on page 109.**

Matreya also offers the resolved D- and L-*threo*-isomers of PDMP and PPMP.

**Protein Kinase C Inhibitor.** Sphingosine is a potent and reversible inhibitor of protein kinase C (32); it also has been shown at low concentrations to stimulate DNA synthesis and act synergistically with known growth factors (33). Note that Safingol (our L-*threo*-Dihydrosphingosine) has also been shown to partially reverse multi-drug resistance in cancer cells (31) *via* inhibition of protein kinase C.

**Dihydroceramide desaturase Inhibitor.** Cyclopropenylceramide is the first known inhibitor of this enzyme and may allow significant studies on the role of ceramide in apoptosis. Matreya is the only source for this inhibitor. (34)

**Ceramidase Inhibitors.** N-Oleoylethanolamine has been shown to be an efficacious inhibitor of the ceramidase found in human kidney and cerebellum (35). It is specifically an inhibitor of acid ceramidase (36) with an IC<sub>50</sub> of ca. 500 µM. N-Hexadecanoylethanolamine can be used as an inactive control. D-MAPP is a potent (IC<sub>50</sub> approximately 5 µM) inhibitor of alkaline ceramidase. Its enantiomer L-MAPP is inactive as an inhibitor and acts as a substrate for this enzyme (36, 37). **See Literature References on page 109.**



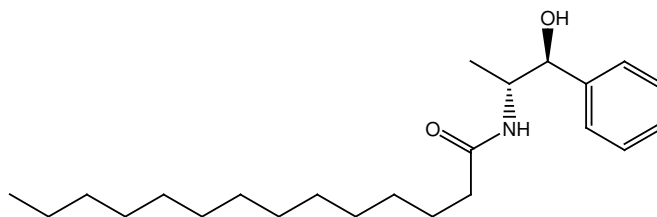
<b>1751</b>	<b>N-Oleoylethanolamine</b> NOE	<b>100 mg</b>
	<b>C<sub>20</sub>H<sub>39</sub>NO<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Activity:</b> acid ceramidase inhibitor	<b>Mol. Wt.:</b> 326 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, ethyl ether, DMSO <b>Melting Point (°C):</b> 63-66 <b>CAS#:</b> 111-58-0 <b>Identity:</b> confirmed by MS

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**1807**      **L-threo-Dihydrosphingosine (Safingol)**      **5 mg**  
**1807-025**      L-threo-Sphinganine, C18 chain      **25 mg**

$C_{18}H_{39}NO_2$       **Mol. Wt.:** 301      **CAS#:** 15639-50-6  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^{\circ}C$   
**Activity:** Protein Kinase C (PKC) and Sphingosine Kinase inhibitor

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**1859**      **D-MAPP**      **100 mg**  
D-erythro-2-Tetradecanoylamino-1-phenyl-1-propanol

$C_{23}H_{39}NO_2$       **Mol. Wt.:** 361      **CAS#:** 143492-39-1  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** ethanol  
**Storage:**  $-20^{\circ}C$   
**Activity:** alkaline ceramidase inhibitor

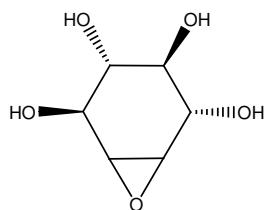
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**1860**      **L-MAPP**      **100 mg**  
L-erythro-2-Tetradecanoylamino-1-phenyl-1-propanol

$C_{23}H_{39}NO_2$       **Mol. Wt.:** 361      **CAS#:** 143492-38-0  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** ethanol  
**Storage:**  $-20^{\circ}C$   
**Activity:** inactive as alkaline ceramidase inhibitor

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**1889**      **Conduritol B Epoxide**      **25 mg**  
D,L-1,2-Anhydro-myo-inositol

$C_6H_{10}O_5$       **Mol. Wt.:** 162      **CAS#:** 6090-95-5  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** DI water, DMSO, methanol (slightly)  
**Storage:**  $-20^{\circ}C$       **Melting Point ( $^{\circ}C$ ):** 164-166  
**Activity:** Inhibits  $\alpha$ - and  $\beta$ -glucosidase activity; specific inhibitor of glucocerebrosidase in cultured cells.

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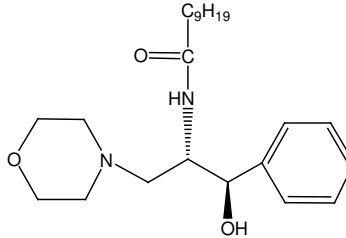
PDMP's can be solubilized in 5% Tween-80 in saline. S. Chatterjee et al. PLoS One. 2013; 8(5): e63726

**1719**      **D,L-threo-PDMP**      **100 mg**  
D,L-threo-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl

$C_{23}H_{38}N_2O_3 \cdot HCl$       **Mol. Wt.:** 427      **CAS#:** 80938-69-8  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** ethanol, methanol, chloroform, DMSO  
**Storage:** -20°C  
**Activity:** glucosylceramide synthase inhibitor

**1720**      **D,L-threo-PPMP**      **100 mg**  
D,L-threo-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl

$C_{29}H_{50}N_2O_3 \cdot HCl$       **Mol. Wt.:** 511      **CAS#:** 149022-18-4  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** alcohols, chloroform  
**Storage:** -20°C  
**Activity:** glucosylceramide synthase inhibitor



**1749**      **L-threo-PDMP**      **10 mg**  
L-threo-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl

$C_{23}H_{38}N_2O_3 \cdot HCl$       **Mol. Wt.:** 427      **CAS#:** 109836-81-9  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** ethanol, methanol  
**Storage:** -20°C

**1753**      **D,L-erythro-PPMP**      **100 mg**  
D,L-erythro-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl

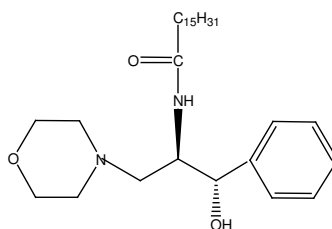
$C_{29}H_{50}N_2O_3 \cdot HCl$       **Mol. Wt.:** 511      **Identity:** confirmed by MS  
**Source:** synthetic      **Purity:** 98+% by TLC      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Appearance:** solid  
**Storage:** -20°C

**1755**      **D,L-erythro-PDMP**      **100 mg**  
D,L-erythro-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl

$C_{23}H_{38}N_2O_3 \cdot HCl$       **Mol. Wt.:** 427      **CAS#:** 109760-77-2  
**Source:** synthetic      **Purity:** 98+% by TLC, HPLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, DMSO  
**Storage:** -20°C

**1756**      **D-threo-PDMP**      **10 mg**  
D-threo-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl

$C_{23}H_{38}N_2O_3 \cdot HCl$       **Mol. Wt.:** 427      **CAS#:** 109836-82-0  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** ethanol, methanol  
**Storage:** -20°C  
**Activity:** glucosylceramide synthase inhibitor

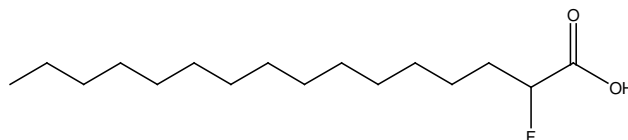


**1865**      **D-threo-PPMP**      **10 mg**  
 D-threo-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl

$C_{29}H_{50}N_2O_3 \cdot HCl$       **Mol. Wt.:** 511  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** ethanol, methanol  
**Storage:**  $-20^{\circ}C$   
**Activity:** glucosylceramide synthase inhibitor

**1868**      **L-threo-PPMP**      **10 mg**  
 L-threo-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl

$C_{29}H_{50}N_2O_3 \cdot HCl$       **Mol. Wt.:** 511      **CAS#:** 207278-87-3  
**Source:** synthetic      **Purity:** 98+% by TLC  
**Appearance:** solid      **Solubility:** ethanol, methanol  
**Storage:**  $-20^{\circ}C$



**1717**      **2-Fluoropalmitic acid**      **25 mg**

$C_{16}H_{31}FO_2$       **Mol. Wt.:** 274      **CAS#:** 89270-22-4  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^{\circ}C$       **Melting Point ( $^{\circ}C$ ):** 83-85  
**Activity:** Acyl-CoA synthase inhibitor

**1718**      **Methyl 2-fluoropalmitate**      **10 mg**

$C_{17}H_{33}FO_2$       **Mol. Wt.:** 288  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^{\circ}C$       **Melting Point ( $^{\circ}C$ ):** 36-38  
**Activity:** inactive ester of 2-fluoropalmitic acid

**1858**      **2-Acetyl-4-(1R, 2S, 3R, 4-tetrahydroxybutyl)-imidazole**      **1 mg**  
 THI

$C_9H_{14}N_2O_5$       **Mol. Wt.:** 230      **CAS#:** 94944-70-4  
**Source:** synthetic      **Purity:** 99% by HPLC, MS, NMR  
**Appearance:** solid      **Solubility:** DI water  
**Storage:**  $-20^{\circ}C$   
**Activity:** Sphingosine-1-phosphate lyase inhibitor

**1945**      **N-(1-Adamantaneacetyl)-glucosylceramide**      **5 mg**  
 N-(1-Adamantaneacetyl)-glucocerebroside

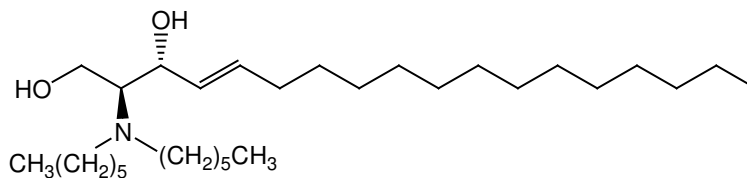
$C_{36}H_{61}NO_8$       **Mol. Wt.:** 636  
**Source:** semisynthetic, plant      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, methanol, chloroform/methanol, 9:1  
**Storage:**  $-20^{\circ}C$   
**Activity:** inhibitor of glucocerebrosidase and lactosylceramide synthase

**1946**      **N-(1-Adamantaneacetyl)-galactosylceramide**      **5 mg**  
N-(1-Adamantaneacetyl)-galactocerebroside

$C_{36}H_{63}NO_8$       **Mol. Wt.:** 638  
**Source:** semisynthetic, bovine      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, methanol, chloroform/methanol, 9:1  
**Storage:**  $-20^\circ\text{C}$   
**Activity:** inhibitor of glucosylceramide, sulfatide, and globotriaosylceramide (Gb<sub>3</sub>) synthase

**1320**      **N,N-Dimethyl-D-erythro-sphingosine**      **5 mg/ml, 1 ml**

$C_{20}H_{41}NO_2$       **Mol. Wt.:** 328      **CAS#:** 119567-63-4  
**Source:** synthetic      **Purity:** 98+% by TLC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, isopropanol, methanol  
**Storage:**  $-20^\circ\text{C}$       **Solvent:** isopropanol  
**Activity:** Inhibitor of phosphokinase C



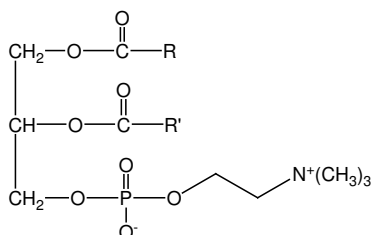
**1896**      **N,N-Dihexyl-D-erythro-sphingosine**      **5 mg/ml, 1 ml**  
Sphingosine with tertiary amine group

$C_{30}H_{61}NO_2$       **Mol. Wt.:** 468  
**Source:** synthetic      **Purity:** 95% by TLC  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, methanol  
**Storage:**  $-20^\circ\text{C}$       **Solvent:** ethanol

## Glycerolipids

## Glycerophospholipids

## Natural Phospholipids



**1044**      **Lecithin, egg**      **50 mg/ml, 1 ml**  
Phosphatidylcholine; PC

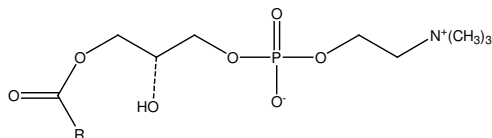
$C_{44}H_{84}NO_8P$       **Mol. Wt.:** 787 (oleoyl)      **CAS#:** 8002-43-5  
**Source:** natural, chicken, egg      **Purity:** 98+% by TLC  
**Appearance:** liquid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^\circ\text{C}$       **Solvent:** chloroform  
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1070 Lecithin, bovine** **50 mg/ml, 1 ml**  
Phosphatidylcholine; PC

$C_{44}H_{84}NO_8P$  **Mol. Wt.:** 787 (oleoyl) **CAS#:** 8002-43-5  
**Source:** natural, bovine **Purity:** 98+% by TLC  
**Appearance:** liquid **Solubility:** chloroform, ethyl ether  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

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**1046 lyso-Lecithin, egg** **50 mg**  
lyso-Phosphatidylcholine

$C_{24}H_{50}NO_7P$  **Mol. Wt.:** 496 (palmitoyl) **CAS#:** 9008-30-4  
**Source:** semisynthetic, chicken, egg **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1047 Phosphatidylserine, bovine** **50 mg/ml, 1 ml**  
PS

$C_{42}H_{78}NO_{10}P$  **Mol. Wt.:** 788 (oleoyl) **CAS#:** 51446-62-9  
**Source:** natural, bovine **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** liquid **Solubility:** chloroform, toluene  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1048 Phosphatidylinositol (Na<sup>+</sup> salt), plant, wheat germ** **10 mg/ml, 1 ml**  
PI

$C_{45}H_{78}O_{13}P\cdot Na$  **Mol. Wt.:** 858 + Na (linoleoyl) **CAS#:** 383907-36-6  
**Source:** natural, plant **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** liquid **Solubility:** chloroform, ethyl ether  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1336 Phosphatidylinositol (Na<sup>+</sup> salt), plant, soy** **50 mg/ml, 1ml**  
PI

$C_{46}H_{80}O_{13}P\cdot Na$  **Mol. Wt.:** 858 + Na (linoleoyl) **CAS#:** 383907-36-6  
**Source:** natural, plant, soy **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** liquid **Solubility:** chloroform, ethyl ether  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 107) for typical fatty acid content of products prepared from natural sources.

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**1053 Phosphatidic acid (NH<sub>4</sub><sup>+</sup> salt), egg** **50 mg**  
PA

$C_{39}H_{72}O_8P\cdot NH_4^+$  **Mol. Wt.:** 718 (oleoyl, NH<sub>4</sub><sup>+</sup>) **Identity:** confirmed by MS  
**Source:** semisynthetic, chicken, egg **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform, ethyl ether  
**Storage:**  $-20^{\circ}C$   
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1045 Phosphatidylethanolamine, egg** **50 mg/ml, 1 ml**  
PE

$C_{41}H_{78}NO_8P$  **Mol. Wt.:** 744 (oleoyl) **CAS#:** 39382-08-6  
**Source:** natural, chicken, egg **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** liquid **Solubility:** chloroform  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 104) for typical fatty acid content of products prepared from natural sources.

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**1069 Phosphatidylethanolamine, bovine** **50 mg/ml, 1 ml**  
PE

$C_{41}H_{78}NO_8P$  **Mol. Wt.:** 744 (oleoyl) **CAS#:** 90989-93-8  
**Source:** natural, bovine **Purity:** 98+% by TLC  
**Appearance:** liquid **Solubility:** chloroform  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform

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**1301 Phosphatidylethanolamine, plant** **50 mg/ml, 1 ml**  
PE

$C_{41}H_{74}NO_8P$  **Mol. Wt.:** 740 (linoleoyl) **CAS#:** 90989-93-8  
**Source:** natural, plant **Purity:** 98+% by TLC  
**Appearance:** liquid **Solubility:** chloroform  
**Storage:**  $-20^{\circ}C$  **Solvent:** chloroform  
See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.

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## Synthetic Phospholipids

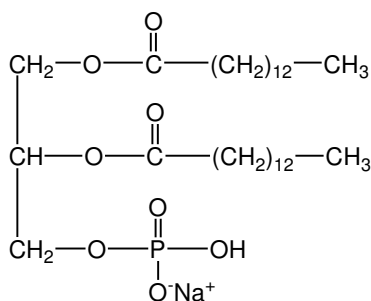
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These phospholipids have 98+% chemical purity except where stated and 99% fatty acid chain purity.  
Store at  $-20^{\circ}C$ .

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## Phosphatidic Acid Derivatives

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**1428 1,2-Dimyristoyl-sn-glycero-3-phosphatidic acid (Na<sup>+</sup> salt)** **100 mg**  
DMPA

$C_{31}H_{60}O_8P\cdot Na$  **Mol. Wt.:** 615 **CAS#:** 80724-31-8  
**Source:** synthetic **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol/acetic acid, 4:1:0.1  
**Storage:**  $-20^{\circ}C$

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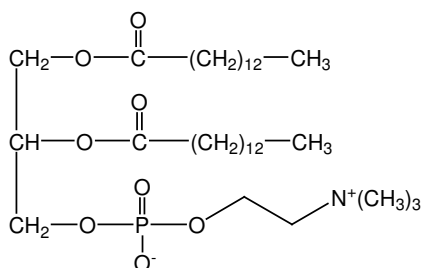


<b>1429</b>	<b>1,2-Dipalmitoyl-sn-glycero-3-phosphatidic acid (Na<sup>+</sup> salt)</b> DPPA	<b>100 mg</b>
	<b>C<sub>35</sub>H<sub>68</sub>O<sub>8</sub>P•Na</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 671 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/acetic acid, 4:1:0.1
		<b>CAS#:</b> 71065-87-7

<b>1430</b>	<b>1,2-Distearoyl-sn-glycero-3-phosphatidic acid (Na<sup>+</sup> salt)</b> DSPA	<b>100 mg</b>
	<b>C<sub>39</sub>H<sub>76</sub>O<sub>8</sub>P•Na</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 727 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/acetic acid, 4:1:0.1
		<b>CAS#:</b> 108321-18-2

## Phosphatidylcholines

<b>1442</b>	<b>1,2-Dilauroyl-sn-glycero-3-phosphorylcholine</b> DLPC	<b>100 mg</b>
	<b>C<sub>32</sub>H<sub>64</sub>NO<sub>8</sub>P</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 622 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methylene chloride, methanol
		<b>CAS#:</b> 18194-25-7



<b>1425</b>	<b>1,2-Dimyristoyl-sn-glycero-3-phosphorylcholine</b> DMPC	<b>100 mg</b>
	<b>C<sub>36</sub>H<sub>72</sub>NO<sub>8</sub>P</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 678 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methylene chloride, methanol <b>Melting Point:</b> 130-139°C
		<b>CAS#:</b> 18194-24-6

<b>1426</b>	<b>1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine</b> DPPC	<b>100 mg</b>
	<b>C<sub>40</sub>H<sub>80</sub>NO<sub>8</sub>P</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 734 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methylene chloride, methanol
		<b>CAS#:</b> 63-89-8

<b>1400</b>	<b>1,2-Diheptadecanoyl-sn-glycero-3-phosphorylcholine</b> DHDPC	<b>50 mg</b>
	<b>C<sub>42</sub>H<sub>84</sub>NO<sub>8</sub>P</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 762 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methylene chloride, methanol
		<b>CAS#:</b> 70897-27-7 <b>Identity:</b> confirmed by MS

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**1427**      **1,2-Distearoyl-sn-glycero-3-phosphorylcholine**      **100 mg**  
DSPC

$C_{44}H_{88}NO_8P$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

Mol. Wt.: 790  
Purity: 98+% by TLC  
Solubility: methylene chloride, methanol

CAS#: 816-94-4

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**1437**      **1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylcholine**      **100 mg**  
POPC

$C_{42}H_{82}NO_8P$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

Mol. Wt.: 760  
Purity: 98+% by TLC  
Solubility: methylene chloride, methanol

CAS#: 26853-31-6

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**1445**      **1-Palmitoyl-sn-glycero-3-phosphorylcholine**      **100 mg**  
*lyso*-PPC

$C_{24}H_{50}NO_7P$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

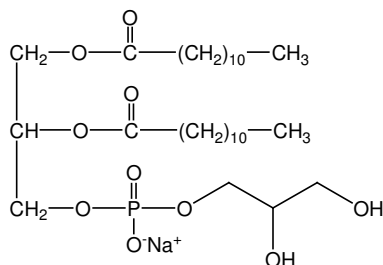
Mol. Wt.: 496  
Purity: 98+% by TLC  
Solubility: methylene chloride, methanol

CAS#: 17364-16-8

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## Phosphatidylglycerols

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**1443**      **1,2-Dilauroyl-sn-glycero-3-phosphorylglycerol (Na<sup>+</sup> salt)**      **100 mg**  
DLPG

$C_{30}H_{58}O_{10}P\cdot Na$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

Mol. Wt.: 632  
Purity: 98+% by TLC  
Solubility: chloroform/methanol, 5:1

CAS#: 73548-69-3

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**1431**      **1,2-Dimyristoyl-sn-glycero-3-phosphorylglycerol (Na<sup>+</sup> salt)**      **100 mg**  
DMPG

$C_{34}H_{66}O_{10}P\cdot Na$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

Mol. Wt.: 689  
Purity: 98+% by TLC  
Solubility: chloroform/methanol, 5:1  
Melting Point: 120-129°C

CAS#: 200880-40-6

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**1432**      **1,2-Dipalmitoyl-sn-glycero-3-phosphorylglycerol (Na<sup>+</sup> salt)**      **100 mg**  
DPPG

$C_{38}H_{74}O_{10}P\cdot Na$   
Source: synthetic  
Appearance: solid  
Storage:  $-20^{\circ}C$

Mol. Wt.: 745  
Purity: 98+% by TLC  
Solubility: chloroform/methanol, 5:1  
Melting Point: 122-127°C

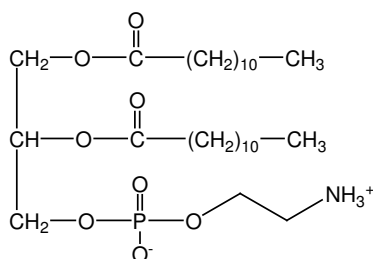
CAS#: 200880-41-7

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<b>1433</b>	<b>1,2-Distearoyl-sn-glycero-3-phosphorylglycerol (Na<sup>+</sup> salt)</b> DSPG		<b>100 mg</b>
	C <sub>42</sub> H <sub>82</sub> O <sub>10</sub> P•Na Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 801 Purity: 98+% by TLC Solubility: chloroform/methanol, 5:1	CAS#: 4537-78-4

<b>1438</b>	<b>1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylglycerol (Na<sup>+</sup> salt)</b> POPG		<b>100 mg</b>
	C <sub>40</sub> H <sub>76</sub> O <sub>10</sub> P•Na Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 771 Purity: 98+% by TLC Solubility: chloroform/methanol, 5:1	CAS#: 202070-86-8

## Phosphatidylethanolamines



<b>1444</b>	<b>1,2-Dilauroyl-sn-glycero-3-phosphorylethanolamine</b> DLPE		<b>100 mg</b>
	C <sub>29</sub> H <sub>58</sub> NO <sub>8</sub> P Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 580 Purity: 98+% by TLC Solubility: chloroform + methanol mixture	CAS#: 42436-56-6

<b>1434</b>	<b>1,2-Dimyristoyl-sn-glycero-3-phosphorylethanolamine</b> DMPE		<b>100 mg</b>
	C <sub>33</sub> H <sub>66</sub> NO <sub>8</sub> P Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 636 Purity: 98+% by TLC Solubility: chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5	CAS#: 998-07-2

<b>1435</b>	<b>1,2-Dipalmitoyl-sn-glycero-3-phosphorylethanolamine</b> DPPE		<b>100 mg</b>
	C <sub>37</sub> H <sub>74</sub> NO <sub>8</sub> P Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 692 Purity: 98+% by TLC Solubility: chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5	CAS#: 923-61-5

<b>1436</b>	<b>1,2-Distearoyl-sn-glycero-3-phosphorylethanolamine</b> DSPE		<b>100 mg</b>
	C <sub>41</sub> H <sub>82</sub> NO <sub>8</sub> P Source: synthetic Appearance: solid Storage: -20°C	Mol. Wt.: 748 Purity: 98+% by TLC Solubility: chloroform/acetic acid, 95:5; chloroform/methanol/DI water/acetic acid, 100:30:10:2.5	CAS#: 1069-79-0

1439 **1,2-Distearoyl-phosphatidylethanolamine-methyl-polyethyleneglycol conjugate-2000 (Na<sup>+</sup> salt)** 100 mg  
DSPE-MPEG-2000

$C_{43}H_{83}NO_{10}P(C_2H_4O)_n \cdot Na$  **Mol. Wt.:** 2807  
**Source:** synthetic **Purity:** 98+% by TLC  
**Appearance:** solid **Solubility:** chloroform  
**Storage:** -20°C  
**Note:**  $n \approx 45$

**CAS#:** 147867-65-0

## Bacterial Tetraethers

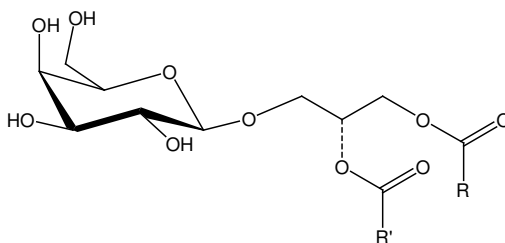
1303 **Main phospholipid (MPL) of *Thermoplasma acidophilum*, (>95% pure)** 5 mg  
*beta*-L-Gulopyranosyl-caldarchaetidyl-glycerol

$C_{95}H_{188}O_{16}P$  **Mol. Wt.:** 1618  
**Source:** natural, Archaeobacteria **Purity:** >95% by TLC, HPLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1; hexane/2-propanol/DI water, 30:40:5  
**Storage:** 4-8°C

1303-2 **Main phospholipid (MPL) of *Thermoplasma acidophilum*, (>50% pure)** 50 mg  
*beta*-L-Gulopyranosyl-caldarchaetidyl-glycerol

$C_{95}H_{188}O_{16}P$  **Mol. Wt.:** 1618  
**Source:** natural, Archaeobacteria **Purity:** >50% by TLC  
**Appearance:** solid **Solubility:** chloroform/methanol, 2:1; hexane/2-propanol/DI water, 30:40:5  
**Storage:** 4-8°C highly hygroscopic

## Glycosyl Glycerides



1058 **Monogalactosyldiglyceride (hydrogenated), plant** 10 mg  
MGDG (hydrogenated)

$C_{45}H_{86}O_{10}$  **Mol. Wt.:** 787 (stearoyl) **CAS#:** 41670-62-6  
**Source:** natural, plant **Purity:** 98+% by TLC **Identity:** confirmed by MS  
**Appearance:** solid **Solubility:** chloroform/methanol/DI water, 4:1:0.1  
**Storage:** -20°C

See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.

<b>1059</b>	<b>Digalactosyldiglyceride (hydrogenated), plant</b> DGDG (hydrogenated)	<b>5 mg</b>
	$C_{51}H_{96}O_{15}$ <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$ See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 949 (distearoyl) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 4:1:0.1
		<b>CAS#:</b> 92457-02-8 <b>Identity:</b> confirmed by MS

## Fatty Acids

### Simple Fatty Acids

#### Saturated Fatty Acids and Methyl Esters

These products are 99% pure by GC. They are stable at room temperature and are supplied neat.

<b>1200</b>	<b>Methyl hexanoate</b> Methyl caproate; C6:0 Methyl ester	<b>1 g</b>
	$C_7H_{14}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 130 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 106-70-7
<b>1196</b>	<b>Heptanoic acid</b> C7:0 Fatty acid	<b>1 g</b>
	$C_7H_{14}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 130 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 111-14-8
<b>1197</b>	<b>Methyl heptanoate</b> C7:0 Methyl ester	<b>1 g</b>
	$C_8H_{16}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 144 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 106-73-0
<b>1198</b>	<b>Octanoic acid</b> Caprylic acid; C8:0 Fatty acid	<b>1 g</b>
	$C_8H_{16}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 144 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 124-07-2
<b>1199</b>	<b>Methyl octanoate</b> Methyl caprylate; C8:0 Methyl ester	<b>1 g</b>
	$C_9H_{18}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 158 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 111-11-5

<b>1163</b>	<b>Nonanoic acid</b> Pelargonic acid; C9:0 Fatty acid		<b>100 mg</b>
	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 158 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 112-05-0
<b>1164</b>	<b>Methyl nonanoate</b> C9:0 Methyl ester		<b>100 mg</b>
	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 172 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 1731-84-6
<b>1261</b>	<b>Methyl decanoate</b> Methyl caprate; C10:0 Methyl ester		<b>500 mg</b>
	C <sub>11</sub> H <sub>22</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 186 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane	<b>CAS#:</b> 110-42-9
<b>1165</b>	<b>Undecanoic acid</b> C11:0 Fatty acid		<b>100 mg</b>
	C <sub>11</sub> H <sub>22</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 186 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 112-37-8
<b>1166</b>	<b>Methyl undecanoate</b> C11:0 Methyl ester		<b>100 mg</b>
	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 200 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 1731-86-8
<b>1008</b>	<b>Dodecanoic acid</b> Lauric acid; C12:0 Fatty acid		<b>1 g</b>
	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 200 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 143-07-7
<b>1009</b>	<b>Methyl dodecanoate</b> Methyl laurate; C12:0 Methyl ester		<b>1 g</b>
	C <sub>13</sub> H <sub>26</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 214 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 111-82-0
<b>1161</b>	<b>Tridecanoic acid</b> C13:0 Fatty acid		<b>100 mg</b>
	C <sub>13</sub> H <sub>26</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 214 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 638-53-9

<b>1162</b>	<b>Methyl tridecanoate</b> C13:0 Methyl ester		<b>100 mg</b>
	<b>C<sub>14</sub>H<sub>28</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 228 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 1731-88-0
<b>1010</b>	<b>Tetradecanoic acid</b> Myristic acid; C14:0 Fatty acid		<b>1 g</b>
	<b>C<sub>14</sub>H<sub>28</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 228 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 544-63-8
<b>1011</b>	<b>Methyl tetradecanoate</b> Methyl myristate; C14:0 Methyl ester		<b>1 g</b>
	<b>C<sub>15</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 242 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 124-10-7
<b>1012</b>	<b>Pentadecanoic acid</b> C15:0 Fatty acid		<b>1 g</b>
	<b>C<sub>15</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 242 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 1002-84-2
<b>1013</b>	<b>Methyl pentadecanoate</b> C15:0 Methyl ester		<b>1 g</b>
	<b>C<sub>16</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 256 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 7132-64-1
<b>1014</b>	<b>Hexadecanoic acid</b> Palmitic acid; C16:0 Fatty acid		<b>1 g</b>
	<b>C<sub>16</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 256 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 57-10-3
<b>1015</b>	<b>Methyl hexadecanoate</b> Methyl palmitate; C16:0 Methyl ester		<b>1 g</b>
	<b>C<sub>17</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 270 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 112-39-0
<b>1018</b>	<b>Heptadecanoic acid</b> Margaric acid; C17:0 Fatty acid		<b>1 g</b>
	<b>C<sub>17</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 270 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 506-12-7

<b>1019</b>	<b>Methyl heptadecanoate</b> Methyl margarate; C17:0 Methyl ester		<b>1 g</b>
	$C_{18}H_{36}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 284 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 1731-92-6
<b>1020</b>	<b>Octadecanoic acid</b> Stearic acid; C18:0 Fatty acid		<b>1 g</b>
	$C_{18}H_{36}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 284 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 57-11-4
<b>1021</b>	<b>Methyl octadecanoate</b> Methyl stearate; C18:0 Methyl ester		<b>1 g</b>
	$C_{19}H_{38}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 298 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether	<b>CAS#:</b> 112-61-8
<b>1028</b>	<b>Nonadecanoic acid</b> C19:0 Fatty acid		<b>100 mg</b>
	$C_{19}H_{38}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 298 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 646-30-0
<b>1029</b>	<b>Methyl nonadecanoate</b> C19:0 Methyl ester		<b>100 mg</b>
	$C_{20}H_{40}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 312 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 1731-94-8
<b>1030</b>	<b>Eicosanoic acid</b> Arachidic acid; C20:0 Fatty acid		<b>500 mg</b>
	$C_{20}H_{40}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 312 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 506-30-9
<b>1031</b>	<b>Methyl eicosanoate</b> Methyl arachidate; C20:0 Methyl ester		<b>500 mg</b>
	$C_{21}H_{42}O_2$ <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 327 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 1120-28-1
<b>1241</b>	<b>Heneicosanoic acid</b> C21:0 Fatty acid		<b>100 mg</b>
	$C_{21}H_{42}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 326 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 2363-71-5



<b>1242</b>	<b>Methyl heneicosanoate</b> C21:0 Methyl ester		<b>100 mg</b>
	C <sub>22</sub> H <sub>44</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 341 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 6064-90-0
<b>1035</b>	<b>Docosanoic acid</b> Behenic acid; C22:0 Fatty acid		<b>500 mg</b>
	C <sub>22</sub> H <sub>44</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 341 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 112-85-6
<b>1036</b>	<b>Methyl docosanoate</b> Methyl behenate; C22:0 Methyl ester		<b>500 mg</b>
	C <sub>23</sub> H <sub>46</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 354 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 929-77-1
<b>1186</b>	<b>Tricosanoic acid</b> C23:0 Fatty acid		<b>100 mg</b>
	C <sub>23</sub> H <sub>46</sub> O <sub>2</sub> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 355 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 2433-96-7
<b>1187</b>	<b>Methyl tricosanoate</b> C23:0 Methyl ester		<b>100 mg</b>
	C <sub>24</sub> H <sub>48</sub> O <sub>2</sub> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 368 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 2433-97-8
<b>1037</b>	<b>Tetracosanoic acid</b> Lignoceric acid; C24:0 Fatty acid		<b>100 mg</b>
	C <sub>24</sub> H <sub>48</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 369 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 557-59-5
<b>1038</b>	<b>Methyl tetracosanoate</b> Methyl lignocerate; C24:0 Methyl ester		<b>100 mg</b>
	C <sub>25</sub> H <sub>50</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 382 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 2442-49-1
<b>1251</b>	<b>Hexacosanoic acid</b> Cerotic acid; C26:0 Fatty acid		<b>25 mg</b>
	C <sub>26</sub> H <sub>52</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 397 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether	<b>CAS#:</b> 506-46-7

<b>1252</b>	<b>Methyl hexacosanoate</b> Methyl cerotate; C26:0 Methyl ester	<b>25 mg</b>
	<b>C<sub>27</sub>H<sub>54</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 411 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether
		<b>CAS#:</b> 5802-82-4
<b>1271</b>	<b>Methyl octacosanoate</b> Methyl montanate; C28:0 Methyl ester	<b>50 mg</b>
	<b>C<sub>29</sub>H<sub>58</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 439 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, methylene chloride
		<b>CAS#:</b> 55682-92-3
<b>1273</b>	<b>Methyl triacontanoate</b> Methyl melissate; C30:0 Methyl ester	<b>50 mg</b>
	<b>C<sub>31</sub>H<sub>62</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 467 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, methylene chloride
		<b>CAS#:</b> 629-83-4
<b>1275</b>	<b>Methyl dotriacontanoate</b> Methyl lacceroate; C32:0 Methyl ester	<b>50 mg</b>
	<b>C<sub>33</sub>H<sub>66</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> room temperature	<b>Mol. Wt.:</b> 495 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, methylene chloride
		<b>CAS#:</b> 41755-79-7

## Unsaturated Fatty Acids and Methyl Esters

Unsaturated fatty acids are easily oxidized. Flush open containers with argon or nitrogen and store at -20°C, in dark.

<b>1157</b>	<b>Tetradecenoic acid (<i>cis</i>-9)</b> Myristoleic acid; C14:1 ( <i>cis</i> -9) Fatty acid	<b>100 mg</b>
	<b>C<sub>14</sub>H<sub>26</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 226 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 544-64-9
<b>1040</b>	<b>Methyl tetradecenoate (<i>cis</i>-9)</b> Methyl myristoleate; C14:1 ( <i>cis</i> -9) Methyl ester	<b>100 mg</b>
	<b>C<sub>15</sub>H<sub>28</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 240 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 56219-06-8
<b>1209</b>	<b>Pentadecenoic acid (<i>cis</i>-10)</b> C15:1 ( <i>cis</i> -10) Fatty acid	<b>50 mg</b>
	<b>C<sub>15</sub>H<sub>28</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 240 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 84743-29-3

<b>1210</b>	<b>Methyl pentadecenoate (<i>cis</i>-10)</b> C15:1 ( <i>cis</i> -10) Methyl ester	<b>50 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 90176-52-6
<b>1243</b>	<b>Hexadecenoic acid (<i>cis</i>-6)</b> Sapinic acid, C16:1 ( <i>cis</i> -6) Fatty acid	<b>25 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> ethanol, methanol, chloroform, ethyl ether
		<b>CAS#:</b> 17004-51-2 <b>Identity:</b> confirmed by MS
<b>1016</b>	<b>Hexadecenoic acid (<i>cis</i>-9)</b> Palmitoleic acid; C16:1 ( <i>cis</i> -9) Fatty acid	<b>100 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 373-49-9
<b>1017</b>	<b>Methyl hexadecenoate (<i>cis</i>-9)</b> Methyl palmitoleate; C16:1 ( <i>cis</i> -9) Methyl ester	<b>100 mg</b>
	<b>C<sub>17</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 268 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 1120-25-8
<b>1147</b>	<b>Hexadecenoic acid (<i>trans</i>-9)</b> Palmitelaidic acid; C16:1 ( <i>trans</i> -9) Fatty acid	<b>100 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 10030-73-6
<b>1148</b>	<b>Methyl hexadecenoate (<i>trans</i>-9)</b> Methyl palmitelaidate; C16:1 ( <i>trans</i> -9) Methyl ester	<b>100 mg</b>
	<b>C<sub>17</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 268 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 10030-74-7
<b>1208</b>	<b>11-Hexadecenoic acid (92% <i>cis</i>, 8% <i>trans</i>)</b> C16:1 ( <i>cis</i> -11/ <i>trans</i> -11) Fatty acid	<b>50 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> >98%, by TLC <b>Solubility:</b> chloroform, ethanol, hexane, methanol
		<b>CAS#:</b> 2271-34-3 <b>Identity:</b> confirmed by MS
<b>1204</b>	<b>Heptadecenoic acid (<i>cis</i>-10)</b> C17:1 ( <i>cis</i> -10) Fatty acid	<b>100 mg</b>
	<b>C<sub>17</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 268 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 29743-97-3

<b>1203</b>	<b>Methyl heptadecenoate (<i>cis</i>-10)</b> C17:1 ( <i>cis</i> -10) Methyl ester	<b>100 mg</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 75190-82-8
<b>1022</b>	<b>Octadecenoic acid (<i>cis</i>-9)</b> Oleic acid; C18:1 ( <i>cis</i> -9) Fatty acid	<b>1 g</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 112-80-1
<b>1023</b>	<b>Methyl octadecenoate (<i>cis</i>-9)</b> Methyl oleate; C18:1 ( <i>cis</i> -9) Methyl ester	<b>1 g</b>
	<b>C<sub>19</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 112-62-9
<b>1149</b>	<b>Octadecenoic acid (<i>trans</i>-9)</b> Elaidic acid; C18:1 ( <i>trans</i> -9) Fatty acid	<b>1 g</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 112-79-8
<b>1150</b>	<b>Methyl octadecenoate (<i>trans</i>-9)</b> Methyl elaidate; C18:1 ( <i>trans</i> -9) Methyl ester	<b>1 g</b>
	<b>C<sub>19</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 1937-62-8
<b>1266</b>	<b>Octadecenoic acid (<i>cis</i>-11)</b> <i>cis</i> -Vaccenic acid; C18:1( <i>cis</i> -11) Fatty acid	<b>100 mg</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 506-17-2
<b>1267</b>	<b>Methyl octadecenoate (<i>cis</i>-11)</b> Methyl <i>cis</i> -vaccenate; C18:1( <i>cis</i> -11) Methyl ester	<b>100 mg</b>
	<b>C<sub>19</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 1937-63-9
<b>1262</b>	<b>Octadecenoic acid (<i>trans</i>-11)</b> <i>trans</i> -Vaccenic acid; C18:1 ( <i>trans</i> -11) Fatty acid	<b>100 mg</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 693-72-1

<b>1263</b>	<b>Methyl octadecenoate (<i>trans</i>-11)</b> Methyl <i>trans</i> -vaccenate; C18:1 ( <i>trans</i> -11) Methyl ester	<b>100 mg</b>
	C <sub>19</sub> H <sub>36</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 6198-58-9
<b>1024</b>	<b>Octadecadienoic acid (all <i>cis</i>-9,12)</b> Linoleic acid; C18:2 (all <i>cis</i> -9,12) Fatty acid	<b>1 g</b>
	C <sub>18</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 280 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> ethyl ether, ethanol, hexane
		<b>CAS#:</b> 60-33-3
<b>1025</b>	<b>Methyl octadecadienoate (all <i>cis</i>-9,12)</b> Methyl linoleate; C18:2 (all <i>cis</i> -9,12) Methyl ester	<b>1 g</b>
	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 294 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 112-63-0
<b>1151</b>	<b>Octadecadienoic acid (all <i>trans</i>-9,12)</b> Linoelaidic acid (all <i>trans</i> -9,12); C18:2 (all <i>trans</i> -9,12) Fatty acid	<b>100 mg</b>
	C <sub>18</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 280 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 506-21-8
<b>1152</b>	<b>Methyl octadecadienoate (all <i>trans</i>-9,12)</b> Methyl linoelaidate; C18:2 (all <i>trans</i> -9,12) Methyl ester	<b>100 mg</b>
	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 294 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2566-97-4
<b>1026</b>	<b>Octadecatrienoic acid (all <i>cis</i>-9,12,15)</b> <i>alpha</i> -Linolenic acid; C18:3 (all <i>cis</i> -9,12,15) Fatty acid	<b>500 mg</b>
	C <sub>18</sub> H <sub>30</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 278 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 463-40-1
<b>1027</b>	<b>Methyl octadecatrienoate (all <i>cis</i>-9,12,15)</b> Methyl <i>alpha</i> -linolenate; C18:3 (all <i>cis</i> -9,12,15) Methyl ester	<b>500 mg</b>
	C <sub>19</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 292 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 301-00-8
<b>1153</b>	<b>Octadecatrienoic acid (all <i>cis</i>-6,9,12)</b> <i>gamma</i> -Linolenic acid; C18:3 (all <i>cis</i> -6,9,12) Fatty acid	<b>100 mg</b>
	C <sub>18</sub> H <sub>30</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 278 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 506-26-3

<b>1154</b>	<b>Methyl octadecatrienoate (all <i>cis</i>-6,9,12)</b> Methyl <i>gamma</i> -linolenate; C18:3 (all <i>cis</i> -6,9,12) Methyl ester	<b>100 mg</b>
	C <sub>19</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 292 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 16326-32-2 <b>Identity:</b> confirmed by MS
<b>1240</b> <b>*NEW*</b>	<b>Methyl punicate</b> Methyl 9(Z),11(E),13(Z)-octadecatrienoate; Conjugated linolenic acid methyl ester; CLnA	<b>25 mg</b>
	C <sub>19</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 292 <b>Purity:</b> 97+% by TLC, GC <b>Solubility:</b> hexane, ethanol, methanol, chloroform
		<b>CAS#:</b> 95497-55-5 <b>Identity:</b> confirmed by MS
<b>1234</b> <b>*NEW*</b>	<b>Methyl jacarate</b> Methyl 8(Z),10(E),12(Z)-octadecatrienoate; Jacaric acid methyl ester; Conjugated linolenic acid methyl ester; CLnA	<b>25 mg</b>
	C <sub>19</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 293 <b>Purity:</b> 98+% by TLC, 96+% by GC <b>Solubility:</b> hexane, ethanol, methanol, chloroform
		<b>Identity:</b> confirmed by MS
<b>1233</b> <b>*NEW*</b>	<b>Methyl <i>alpha</i>-eleostearate</b> Methyl 9(Z),11(E),13(E)-octadecatrienoate; <i>alpha</i> -Eleostearic acid methyl ester; Conjugated linolenic acid methyl ester; CLnA	<b>25 mg</b>
	C <sub>19</sub> H <sub>32</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 293 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> hexane, ethanol, methanol, chloroform
		<b>CAS#:</b> 4175-47-7 <b>Identity:</b> confirmed by MS
<b>1276</b>	<b>Stearidonic acid (all <i>cis</i>-6,9,12,15)</b> Morotic acid; C18:4 (all <i>cis</i> -6,9,12,15) Fatty acid	<b>25 mg</b>
	C <sub>18</sub> H <sub>28</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 276 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 20290-75-9 <b>Identity:</b> confirmed by MS
<b>1277</b>	<b>Methyl stearidonate (all <i>cis</i>-6,9,12,15)</b> Morotic acid methyl ester; C18:4 (all <i>cis</i> -6,9,12,15) Methyl ester	<b>25 mg</b>
	C <sub>19</sub> H <sub>30</sub> O <sub>2</sub> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 290 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 73097-00-4 <b>Identity:</b> confirmed by MS
<b>1205</b>	<b>Nonadecenoic acid (<i>cis</i>-10)</b> C19:1 ( <i>cis</i> -10) Fatty acid	<b>100 mg</b>
	C <sub>19</sub> H <sub>36</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 73033-09-7
<b>1206</b>	<b>Methyl nonadecenoate (<i>cis</i>-10)</b> C19:1 ( <i>cis</i> -10) Methyl ester	<b>100 mg</b>
	C <sub>20</sub> H <sub>38</sub> O <sub>2</sub> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 310 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 19788-74-0

<b>1032</b>	<b>Eicosenoic acid (<i>cis</i>-11)</b> Gondoic acid; C20:1 ( <i>cis</i> -11) Fatty acid	<b>100 mg</b>
	<b>C<sub>20</sub>H<sub>38</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 310 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 5561-99-9
<b>1033</b>	<b>Methyl eicosenoate (<i>cis</i>-11)</b> Methyl eicosenoate; C20:1 ( <i>cis</i> -11) Methyl ester; Methyl gondoate	<b>100 mg</b>
	<b>C<sub>21</sub>H<sub>40</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 324 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2390-09-2
<b>1192</b>	<b>Eicosadienoic acid (all <i>cis</i>-11,14)</b> C20:2 (all <i>cis</i> -11,14) Fatty acid	<b>100 mg</b>
	<b>C<sub>20</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 309 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2091-39-6
<b>1193</b>	<b>Methyl eicosadienoate (all <i>cis</i>-11,14)</b> Methyl eicosadienoate; C20:2 (all <i>cis</i> -11,14) Methyl ester	<b>100 mg</b>
	<b>C<sub>21</sub>H<sub>38</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 322 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2463-02-7
<b>1179</b>	<b>Methyl eicosatrienoate (all <i>cis</i>-5,8,11)</b> Mead acid methyl ester; C20:3 (all <i>cis</i> -5,8,11) Methyl ester	<b>1 mg/ml, 1 ml</b>
	<b>C<sub>21</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 320 <b>Purity:</b> 90% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether <b>Solvent:</b> hexane
		<b>CAS#:</b> 14602-39-2
<b>1269</b>	<b>Methyl eicosatrienoate (all <i>cis</i>-8,11,14)</b> Methyl homogamma linolenate; C20:3 (all <i>cis</i> -8,11,14) Methyl ester	<b>50 mg</b>
	<b>C<sub>21</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> semisynthetic, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 321 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> hexane, ethyl ether, chloroform
		<b>CAS#:</b> 21061-10-9
<b>1042</b>	<b>Eicosatetraenoic acid (all <i>cis</i>-5,8,11,14)</b> Arachidonic acid (all <i>cis</i> -5,8,11,14); C20:4 (all <i>cis</i> -5,8,11,14) Fatty acid	<b>100 mg</b>
	<b>C<sub>20</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> natural, fungal <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 304 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> ethyl ether, hexane, methylene chloride
		<b>CAS#:</b> 506-32-1
<b>1034</b>	<b>Methyl eicosatetraenoate (all <i>cis</i>-5,8,11,14)</b> Methyl arachidonate; C20:4 (all <i>cis</i> -5,8,11,14) Methyl ester	<b>100 mg</b>
	<b>C<sub>21</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> natural, fungal <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 318 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2566-89-4

<b>1167</b>	<b>Eicosapentaenoic acid (all <i>cis</i>-5,8,11,14,17)</b> EPA ; <i>omega</i> -3 Fatty acid; C20:5 (all <i>cis</i> -5,8,11,14,17) Fatty acid	<b>25 mg</b>
	<b>C<sub>20</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> natural, fish oil <b>Appearance:</b> liquid <b>Storage:</b> -20°C Anti-hyperlipoproteinemic agent; 5-LOX inhibitor	<b>Mol. Wt.:</b> 302 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether, ethanol, DMSO, DMF
		<b>CAS#:</b> 10417-94-4
<b>1194</b>	<b>Methyl eicosapentaenoate (all <i>cis</i>-5,8,11,14,17)</b> EPA methyl ester; Methyl ester of <i>omega</i> -3 fatty acid; C20:5 (all <i>cis</i> -5,8,11,14,17) Methyl ester	<b>25 mg</b>
	<b>C<sub>21</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> natural, fish oil <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 316 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, hexane
		<b>CAS#:</b> 2734-47-6
<b>1264</b>	<b>Docosenoic acid (<i>cis</i>-13)</b> Erucic acid; C22:1 ( <i>cis</i> -13) Fatty acid	<b>100 mg</b>
	<b>C<sub>22</sub>H<sub>42</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 339 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, hexane
		<b>CAS#:</b> 112-86-7
<b>1265</b>	<b>Methyl docosenoate (<i>cis</i>-13)</b> Methyl erucate; C22:1 ( <i>cis</i> -13) Methyl ester	<b>100 mg</b>
	<b>C<sub>23</sub>H<sub>44</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 352 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, hexane
		<b>CAS#:</b> 1120-34-9
<b>1175</b>	<b>Docosapentaenoic acid (all <i>cis</i>-7,10,13,16,19)</b> DPA; C22:5 (all <i>cis</i> -7,10,13,16,19) Fatty acid	<b>25 mg</b>
	<b>C<sub>22</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> semisynthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 330 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, hexane
		<b>CAS#:</b> 24880-45-3
<b>1244</b>	<b>Methyl docosapentaenoate (all <i>cis</i>-7,10,13,16,19)</b> DPA methyl ester; C22:5 (all <i>cis</i> -7,10,13,16,19) Methyl ester	<b>25 mg</b>
	<b>C<sub>23</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> semisynthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 344 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> ethyl ether, ethanol, hexane
		<b>CAS#:</b> 108698-02-8
<b>1136</b>	<b>Docosahexaenoic acid (all <i>cis</i>-4,7,10,13,16,19)</b> DHA; C22:6 (all <i>cis</i> -4,7,10,13,16,19) <i>omega</i> -3 Fatty acid	<b>100 mg</b>
	<b>C<sub>22</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> natural, algae <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 328 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> ethyl ether, hexane, methylene chloride, ethanol, DMSO, DMF
		<b>CAS#:</b> 6217-54-5



<b>1041</b>	<b>Methyl docosaehaenoate (all <i>cis</i>-4,7,10,13,16,19)</b> DHA methyl ester; Methyl ester of <i>omega</i> -3 fatty acid; C22:6 (all <i>cis</i> -4,7,10,13,16,19) Methyl ester	<b>100 mg</b>
	<b>C<sub>23</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> natural, algae <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 342 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2566-90-7
<b>1155</b>	<b>Tetracosenoic acid (<i>cis</i>-15)</b> Nervonic acid ( <i>cis</i> -15); C24:1 ( <i>cis</i> -15) Fatty acid	<b>100 mg</b>
	<b>C<sub>24</sub>H<sub>46</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 367 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 506-37-6
<b>1156</b>	<b>Methyl tetracosenoate (<i>cis</i>-15)</b> Methyl nervonate; C24:1 ( <i>cis</i> -15) Methyl ester	<b>100 mg</b>
	<b>C<sub>25</sub>H<sub>48</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 381 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 2733-88-2

### Trans Fatty Acids and Methyl Esters

<b>1147</b>	<b>Hexadecenoic acid (<i>trans</i>-9)</b> Palmitelaidic acid; C16:1 ( <i>trans</i> -9) Fatty acid	<b>100 mg</b>
	<b>C<sub>16</sub>H<sub>30</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 254 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 10030-73-6
<b>1148</b>	<b>Methyl hexadecenoate (<i>trans</i>-9)</b> Methyl palmitelaidate; C16:1 ( <i>trans</i> -9) Methyl ester	<b>100 mg</b>
	<b>C<sub>17</sub>H<sub>32</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 268 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 10030-74-7
<b>1149</b>	<b>Octadecenoic acid (<i>trans</i>-9)</b> Elaidic acid; C18:1 ( <i>trans</i> -9) Fatty acid	<b>1 g</b>
	<b>C<sub>18</sub>H<sub>34</sub>O<sub>2</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 282 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 112-79-8
<b>1150</b>	<b>Methyl octadecenoate (<i>trans</i>-9)</b> Methyl elaidate; C18:1 ( <i>trans</i> -9) Methyl ester	<b>1 g</b>
	<b>C<sub>19</sub>H<sub>36</sub>O<sub>2</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 296 <b>Purity:</b> 99% by TLC, GC <b>Solubility:</b> chloroform, hexane, ethyl ether
		<b>CAS#:</b> 1937-62-8

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**1262**      **Octadecenoic acid (*trans*-11)**      **100 mg**  
*trans*-Vaccenic acid; C18:1 (*trans*-11) Fatty acid

$C_{18}H_{34}O_2$       **Mol. Wt.:** 282      **CAS#:** 693-72-1  
**Source:** synthetic      **Purity:** 99% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, hexane, ethyl ether  
**Storage:** -20°C

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**1263**      **Methyl octadecenoate (*trans*-11)**      **100 mg**  
Methyl *trans*-vaccenate; C18:1 (*trans*-11) Methyl ester

$C_{19}H_{36}O_2$       **Mol. Wt.:** 296      **CAS#:** 6198-58-9  
**Source:** synthetic      **Purity:** 99% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, hexane, ethyl ether  
**Storage:** -20°C

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**1151**      **Octadecadienoic acid (all *trans*-9,12)**      **100 mg**  
Linoelaidic acid (all *trans*-9,12); C18:2 (all *trans*-9,12) Fatty acid

$C_{18}H_{32}O_2$       **Mol. Wt.:** 280      **CAS#:** 506-21-8  
**Source:** semisynthetic, plant      **Purity:** 99% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, hexane, ethyl ether  
**Storage:** -20°C

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**1152**      **Methyl octadecadienoate (all *trans*-9,12)**      **100 mg**  
Methyl linoelaidate; C18:2 (all *trans*-9,12) Methyl ester

$C_{19}H_{34}O_2$       **Mol. Wt.:** 294      **CAS#:** 2566-97-4  
**Source:** semisynthetic, plant      **Purity:** 99% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, hexane, ethyl ether  
**Storage:** -20°C

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**1131**      ***Cis-Trans* FAME Isomer Standard Mixture**      **5.5 mg/ml, 5 ml**

**Source:** margarine  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** methylene chloride

Analysis of positional *cis-trans* fatty acid isomers is ever more important in light of the new food industry rules. These isomers can be resolved on Supelco SP-2560 or an equivalent capillary GC column. Use this specially formulated mixture to ensure proper operation of your column for this tricky separation. Mixture consists of *cis-trans* fatty acid isomers as methyl esters in methylene chloride.

This is a qualitative mixture containing:  
C16:0, C18:0, C18:1 *trans* isomers (4 peaks), C18:1 *cis* & *trans* isomers (2 peaks),  
C18:1 *cis* isomers (4 peaks), C18:2, C20:0, C20:1 and C18:3 (same peak), C22:0  
Listed in order of their elution using a SP-2560 100m x 0.25mm x 0.2µm capillary column.

## Conjugated Linoleic Acid (CLA) Isomers

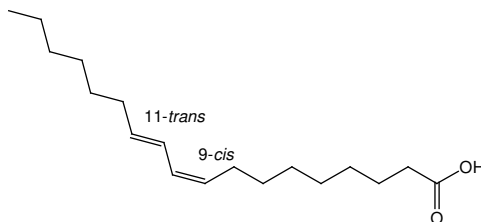
Linoleic acid is an essential fatty acid (18:2 ω6) of which several naturally occurring conjugated derivatives have been identified. These derivatives, called "conjugated linoleic acid" or CLA can have the two double bonds mainly in the 9 and 11 or in the 10 and 12 positions, resulting in eight possible geometric isomers. CLA occurs in meat (41) and dairy products (42,43). In both cases, the 9(Z),11(E)-isomer is predominant and is thought to be the biologically active form. CLA assimilated through the diet of animals is found in the intestinal mucosa, liver and adipose tissue (44). See also review article by Parodi (43). CLA has several biological properties. It's anti-carcinogenic activity has been demonstrated by its ability to inhibit chemically induced tumor formation in animal models of carcinogenesis (41,45-47). The addition of CLA to culture medium suppresses the *in vitro* growth of human melanoma, colorectal and breast cancer cells (48). CLA also exhibits anti-atherogenic activity. Addition of CLA to a controlled atherogenic diet significantly reduced the development of atherosclerosis in hamsters and rabbits (49,50). Animals fed a diet containing CLA also had lower levels of low-density lipoprotein (LDL) cholesterol. CLA may be involved in regulating fat and protein metabolism (51,52). Several species of animals fed CLA-supplemented diets showed improved feed efficiency. Lean body mass increased while body fat was reduced. This seems to be due, mainly or exclusively, to the 10(E),12(Z)-isomer (catalog # 1249, see below). CLA competes with linoleate for Δ6 desaturase (53). Dietary CLA normalizes impaired glucose tolerance in the Zucker diabetic fatty *fa/fa* rat (54) *via* activation of PPAR γ, a result which bears on the possible ameliorization or prevention of NIDDM. The 11(Z),13(E)-isomer has been shown to be concentrated in the heart and in mitochondria.

See Literature References on page 109.

### CLA Research is Being Redone With Our Highly Pure Isomers

Most studies to date have utilized a mixture of CLA isomers containing less than 30% of the presumed active 9(Z),11(E)-isomer (55,56). In addition to the 9,11- and 10,12-isomers, 8,10- and 11,13-isomers have recently been identified in the widely used mixture (56,57). Matreya offers a highly pure CLA which is 98+% the active 9,11-"cis, trans" isomer. The corresponding "trans,trans" and "cis,cis" isomers are also available. In addition, we now offer the pure 10(E),12(Z)-isomer, which has been widely sought for comparison studies.

See Literature References on page 109.



**1245**      **9(Z),11(E)-Octadecadienoic acid**      **25 mg**  
9-*cis*, 11-*trans* CLA

C<sub>18</sub>H<sub>32</sub>O<sub>2</sub>

Source: synthetic

Appearance: liquid

Storage: -20°C

Mol. Wt.: 280

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, hexane, methanol, DMSO

CAS#: 2540-56-9

Identity: confirmed by MS

**1278**      **9(Z),11(E)-Octadecadienoic acid (Na<sup>+</sup> salt)**      **25 mg**  
9-*cis*,11-*trans*-CLA (Na<sup>+</sup> salt)

C<sub>18</sub>H<sub>31</sub>NaO<sub>2</sub>

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 302

Purity: 98+% by TLC, GC

Solubility: water, methanol, DMSO

Identity: confirmed by MS

**1255**      **Methyl 9(Z),11(E)-octadecadienoate**      **25 mg**  
Methyl ester of CLA (9-*cis*, 11-*trans*)

C<sub>19</sub>H<sub>34</sub>O<sub>2</sub>

Source: synthetic

Appearance: liquid

Storage: -20°C

Mol. Wt.: 294

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, hexane, methanol

CAS#: 13058-52-1

Identity: confirmed by MS

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**1181**      **9(E),11(E)-Octadecadienoic acid**      **25 mg**  
9-*trans*, 11-*trans* CLA

$C_{18}H_{32}O_2$       **Mol. Wt.:** 280      **CAS#:** 544-71-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:** -20°C      **Melting Point (°C):** 55-57

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**1257**      **Methyl 9(E),11(E)-octadecadienoate**      **25 mg**  
Methyl ester of CLA (9-*trans*, 11-*trans*)

$C_{19}H_{34}O_2$       **Mol. Wt.:** 294      **CAS#:** 13038-47-6  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:** -20°C

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**1248**      **9(Z),11(Z)-Octadecadienoic acid**      **25 mg**  
9-*cis*, 11-*cis* CLA

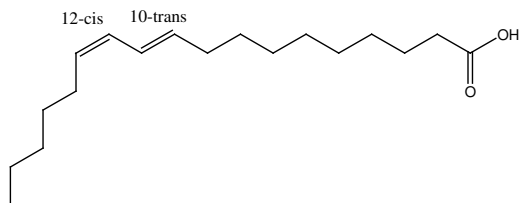
$C_{18}H_{32}O_2$       **Mol. Wt.:** 280      **CAS#:** 544-40-7  
**Source:** synthetic      **Purity:** 96+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, ethyl ether  
**Storage:** -20°C      **Melting Point (°C):** 40-42

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**1256**      **Methyl 9(Z),11(Z)-octadecadienoate**      **25 mg**  
Methyl ester of CLA (9-*cis*, 11-*cis*)

$C_{19}H_{34}O_2$       **Mol. Wt.:** 294  
**Source:** synthetic      **Purity:** 96+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:** -20°C

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**1249**      **10(E),12(Z)-Octadecadienoic acid**      **25 mg**  
10-*trans*, 12-*cis* CLA

$C_{18}H_{32}O_2$       **Mol. Wt.:** 280      **CAS#:** 2420-44-2  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:** -20°C

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**1254**      **Methyl 10(E),12(Z)-octadecadienoate**      **25 mg**  
Methyl ester of CLA (10-*trans*, 12-*cis*)

$C_{19}H_{34}O_2$       **Mol. Wt.:** 294      **CAS#:** 21870-97-3  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:** -20°C

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**1240**      **Methyl punicate**      **25 mg**  
**\*NEW\*** Methyl 9(Z),11(E),13(Z)-octadecatrienoate; Conjugated linolenic acid methyl ester; CLnA

$C_{19}H_{32}O_2$       **Mol. Wt.:** 292      **CAS#:** 95497-55-5  
**Source:** natural, plant      **Purity:** 97+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** hexane, ethanol, methanol, chloroform  
**Storage:** -20°C

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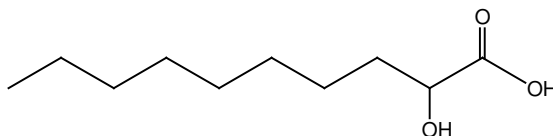
<b>1234</b> <b>*NEW*</b>	<b>Methyl jacarate</b> Methyl 8(Z),10(E),12(Z)-octadecatrienoate; Jacaric acid methyl ester; Conjugated linolenic acid methyl ester; CLnA	<b>25 mg</b>												
	<table border="0"> <tr> <td><math>C_{19}H_{32}O_2</math></td> <td><b>Mol. Wt.:</b> 293</td> <td></td> </tr> <tr> <td><b>Source:</b> natural, plant</td> <td><b>Purity:</b> 98+% by TLC, 96+% by GC</td> <td><b>Identity:</b> confirmed by MS</td> </tr> <tr> <td><b>Appearance:</b> liquid</td> <td><b>Solubility:</b> hexane, ethanol, methanol, chloroform</td> <td></td> </tr> <tr> <td><b>Storage:</b> -20°C</td> <td></td> <td></td> </tr> </table>	$C_{19}H_{32}O_2$	<b>Mol. Wt.:</b> 293		<b>Source:</b> natural, plant	<b>Purity:</b> 98+% by TLC, 96+% by GC	<b>Identity:</b> confirmed by MS	<b>Appearance:</b> liquid	<b>Solubility:</b> hexane, ethanol, methanol, chloroform		<b>Storage:</b> -20°C			
$C_{19}H_{32}O_2$	<b>Mol. Wt.:</b> 293													
<b>Source:</b> natural, plant	<b>Purity:</b> 98+% by TLC, 96+% by GC	<b>Identity:</b> confirmed by MS												
<b>Appearance:</b> liquid	<b>Solubility:</b> hexane, ethanol, methanol, chloroform													
<b>Storage:</b> -20°C														

<b>1233</b> <b>*NEW*</b>	<b>Methyl <i>alpha</i>-eleostearate</b> Methyl 9(Z),11(E),13(E)-octadecatrienoate; <i>alpha</i> -Eleostearic acid methyl ester; Conjugated linolenic acid methyl ester; CLnA	<b>25 mg</b>												
	<table border="0"> <tr> <td><math>C_{19}H_{32}O_2</math></td> <td><b>Mol. Wt.:</b> 293</td> <td><b>CAS#:</b> 4175-47-7</td> </tr> <tr> <td><b>Source:</b> natural, plant</td> <td><b>Purity:</b> 98+% by TLC, GC</td> <td><b>Identity:</b> confirmed by MS</td> </tr> <tr> <td><b>Appearance:</b> liquid</td> <td><b>Solubility:</b> hexane, ethanol, methanol, chloroform</td> <td></td> </tr> <tr> <td><b>Storage:</b> -20°C</td> <td></td> <td></td> </tr> </table>	$C_{19}H_{32}O_2$	<b>Mol. Wt.:</b> 293	<b>CAS#:</b> 4175-47-7	<b>Source:</b> natural, plant	<b>Purity:</b> 98+% by TLC, GC	<b>Identity:</b> confirmed by MS	<b>Appearance:</b> liquid	<b>Solubility:</b> hexane, ethanol, methanol, chloroform		<b>Storage:</b> -20°C			
$C_{19}H_{32}O_2$	<b>Mol. Wt.:</b> 293	<b>CAS#:</b> 4175-47-7												
<b>Source:</b> natural, plant	<b>Purity:</b> 98+% by TLC, GC	<b>Identity:</b> confirmed by MS												
<b>Appearance:</b> liquid	<b>Solubility:</b> hexane, ethanol, methanol, chloroform													
<b>Storage:</b> -20°C														

## Hydroxy Fatty Acids

### 2-Hydroxy Fatty Acids and Methyl Esters

These products are racemic and 98+% pure by GC and TLC. The 2-hydroxy fatty acids are components of glycosphingolipids and are involved in fatty acid degradation. They are stable and are supplied neat in vials.



<b>1758</b>	<b>2-Hydroxydecanoic acid</b> 2-Hydroxy C10:0 fatty acid	<b>50 mg</b>												
	<table border="0"> <tr> <td><math>C_{10}H_{20}O_3</math></td> <td><b>Mol. Wt.:</b> 188</td> <td><b>CAS#:</b> 5393-81-7</td> </tr> <tr> <td><b>Source:</b> synthetic</td> <td><b>Purity:</b> 98+% by TLC, GC</td> <td><b>Identity:</b> confirmed by MS</td> </tr> <tr> <td><b>Appearance:</b> solid</td> <td><b>Solubility:</b> chloroform, methanol</td> <td></td> </tr> <tr> <td><b>Storage:</b> -20°C</td> <td></td> <td></td> </tr> </table>	$C_{10}H_{20}O_3$	<b>Mol. Wt.:</b> 188	<b>CAS#:</b> 5393-81-7	<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC	<b>Identity:</b> confirmed by MS	<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol		<b>Storage:</b> -20°C			
$C_{10}H_{20}O_3$	<b>Mol. Wt.:</b> 188	<b>CAS#:</b> 5393-81-7												
<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC	<b>Identity:</b> confirmed by MS												
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol													
<b>Storage:</b> -20°C														

<b>1759</b>	<b>Methyl 2-hydroxydecanoate</b> 2-Hydroxy C10:0 methyl ester	<b>50 mg</b>												
	<table border="0"> <tr> <td><math>C_{11}H_{22}O_3</math></td> <td><b>Mol. Wt.:</b> 202</td> <td><b>CAS#:</b> 71271-24-4</td> </tr> <tr> <td><b>Source:</b> synthetic</td> <td><b>Purity:</b> 98+% by TLC, GC</td> <td></td> </tr> <tr> <td><b>Appearance:</b> solid</td> <td><b>Solubility:</b> chloroform, methanol</td> <td></td> </tr> <tr> <td><b>Storage:</b> -20°C</td> <td></td> <td></td> </tr> </table>	$C_{11}H_{22}O_3$	<b>Mol. Wt.:</b> 202	<b>CAS#:</b> 71271-24-4	<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC		<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol		<b>Storage:</b> -20°C			
$C_{11}H_{22}O_3$	<b>Mol. Wt.:</b> 202	<b>CAS#:</b> 71271-24-4												
<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC													
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol													
<b>Storage:</b> -20°C														

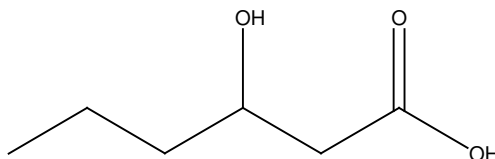
<b>1701</b>	<b>2-Hydroxydodecanoic acid</b> 2-Hydroxy C12:0 fatty acid	<b>50 mg</b>												
	<table border="0"> <tr> <td><math>C_{12}H_{24}O_3</math></td> <td><b>Mol. Wt.:</b> 216</td> <td><b>CAS#:</b> 2984-55-6</td> </tr> <tr> <td><b>Source:</b> synthetic</td> <td><b>Purity:</b> 98+% by TLC, GC</td> <td></td> </tr> <tr> <td><b>Appearance:</b> solid</td> <td><b>Solubility:</b> chloroform, methanol</td> <td></td> </tr> <tr> <td><b>Storage:</b> -20°C</td> <td></td> <td></td> </tr> </table>	$C_{12}H_{24}O_3$	<b>Mol. Wt.:</b> 216	<b>CAS#:</b> 2984-55-6	<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC		<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol		<b>Storage:</b> -20°C			
$C_{12}H_{24}O_3$	<b>Mol. Wt.:</b> 216	<b>CAS#:</b> 2984-55-6												
<b>Source:</b> synthetic	<b>Purity:</b> 98+% by TLC, GC													
<b>Appearance:</b> solid	<b>Solubility:</b> chloroform, methanol													
<b>Storage:</b> -20°C														

<b>1702</b>	<b>Methyl 2-hydroxydodecanoate</b> 2-Hydroxy C12:0 methyl ester		<b>50 mg</b>
	$C_{13}H_{26}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 230 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, methanol	<b>CAS#:</b> 51067-85-7
<b>1703</b>	<b>2-Hydroxytetradecanoic acid</b> 2-Hydroxy C14:0 fatty acid		<b>50 mg</b>
	$C_{14}H_{28}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 244 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, methanol <b>Melting Point (°C):</b> 81-82	<b>CAS#:</b> 2507-55-3 <b>Identity:</b> confirmed by MS
<b>1704</b>	<b>Methyl 2-hydroxytetradecanoate</b> 2-Hydroxy C14:0 methyl ester		<b>50 mg</b>
	$C_{15}H_{30}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 258 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, methanol	<b>CAS#:</b> 56009-40-6 <b>Identity:</b> confirmed by MS
<b>1705</b>	<b>2-Hydroxyhexadecanoic acid</b> 2-Hydroxy C16:0 fatty acid		<b>50 mg</b>
	$C_{16}H_{32}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 272 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> methanol, chloroform/methanol, 2:1 <b>Melting Point (°C):</b> 86-87	<b>CAS#:</b> 764-67-0
<b>1706</b>	<b>Methyl 2-hydroxyhexadecanoate</b> 2-Hydroxy C16:0 methyl ester		<b>50 mg</b>
	$C_{17}H_{34}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 286 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, methanol <b>Melting Point (°C):</b> 59-60	<b>CAS#:</b> 16742-51-1
<b>1707</b>	<b>2-Hydroxyoctadecanoic acid</b> 2-Hydroxy C18:0 fatty acid		<b>50 mg</b>
	$C_{18}H_{36}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 300 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol, 5:1 <b>Melting Point (°C):</b> 92-93	<b>CAS#:</b> 629-22-1
<b>1708</b>	<b>Methyl 2-hydroxyoctadecanoate</b> 2-Hydroxy C18:0 methyl ester		<b>50 mg</b>
	$C_{19}H_{38}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 315 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, methanol <b>Melting Point (°C):</b> 64-66	<b>CAS#:</b> 2420-35-1
<b>1709</b>	<b>2-Hydroxyeicosanoic acid</b> 2-Hydroxy C20:0 fatty acid		<b>25 mg</b>
	$C_{20}H_{40}O_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 329 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol, 5:1 <b>Melting Point (°C):</b> 91-92	<b>CAS#:</b> 16742-48-6

<b>1710</b>	<b>Methyl 2-hydroxyeicosanoate</b> 2-Hydroxy C20:0 methyl ester	<b>25 mg</b>
	<b>C<sub>21</sub>H<sub>42</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 343 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether <b>Melting Point (°C):</b> 62-64
		<b>CAS#:</b> 16742-49-7 <b>Identity:</b> confirmed by MS
<b>1711</b>	<b>2-Hydroxydocosanoic acid</b> 2-Hydroxy C22:0 fatty acid	<b>25 mg</b>
	<b>C<sub>22</sub>H<sub>44</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 356 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol, 5:1 <b>Melting Point (°C):</b> 96-97
		<b>CAS#:</b> 13980-14-8 <b>Identity:</b> confirmed by MS
<b>1712</b>	<b>Methyl 2-hydroxydocosanoate</b> 2-Hydroxy C22:0 methyl ester	<b>25 mg</b>
	<b>C<sub>23</sub>H<sub>46</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 371 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether <b>Melting Point (°C):</b> 72-73
		<b>CAS#:</b> 13980-17-1
<b>1713</b>	<b>2-Hydroxytricosanoic acid</b> 2-Hydroxy C23:0 fatty acid	<b>10 mg</b>
	<b>C<sub>23</sub>H<sub>46</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 371 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol, 5:1 <b>Melting Point (°C):</b> 98-99
		<b>CAS#:</b> 2718-37-8
<b>1714</b>	<b>Methyl 2-hydroxytricosanoate</b> 2-Hydroxy C23:0 methyl ester	<b>10 mg</b>
	<b>C<sub>24</sub>H<sub>48</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 385 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether <b>Melting Point (°C):</b> 68-70
		<b>CAS#:</b> 118745-41-8 <b>Identity:</b> confirmed by MS
<b>1715</b>	<b>2-Hydroxytetracosanoic acid</b> 2-Hydroxylignoceric acid; 2-Hydroxy C24:0 fatty acid; Cerebronic acid	<b>5 mg</b>
	<b>C<sub>24</sub>H<sub>48</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 385 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform/methanol, 5:1 <b>Melting Point (°C):</b> 101-104
		<b>CAS#:</b> 544-57-0
<b>1716</b>	<b>Methyl 2-hydroxytetracosanoate</b> Methyl 2-hydroxylignocerate; 2-Hydroxy C24:0 methyl ester	<b>5 mg</b>
	<b>C<sub>25</sub>H<sub>50</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 399 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether <b>Melting Point (°C):</b> 77-80
		<b>CAS#:</b> 2433-95-6
<b>1722</b>	<b>2-Hydroxy Methyl Ester Mixture</b> Quantitative mixture	<b>10 mg/ml, 1 ml</b>
	<b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Solubility:</b> chloroform <b>Solvent:</b> chloroform
	<b>Contains:</b> 2-OH C14:0, 20.0%; 2-OH C16:0, 20.0%; 2-OH C18:0, 15.0%; 2-OH C20:0, 15.0%; 2-OH C22:0, 10.0%; 2-OH C23:0, 10.0%; 2-OH C24:0, 10.0%	

## 3-Hydroxy Fatty Acids and Methyl Esters

These products are racemic and 98+% pure by GC and TLC. 3-Hydroxy fatty acids occur in the lipid fraction of many microorganisms and are useful in the typing of microbial isolates. They are stable and are supplied neat in vials.



**1747**      **3-Hydroxyhexanoic acid**      **25 mg**  
3-Hydroxy C6:0 fatty acid

$C_6H_{12}O_3$

Source: synthetic

Appearance: liquid

Storage:  $-20^{\circ}C$

Mol. Wt.: 132

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, methanol

CAS#: 10191-24-9

**1748**      **Methyl 3-hydroxyhexanoate**      **25 mg**  
3-Hydroxy C6:0 methyl ester

$C_7H_{14}O_3$

Source: synthetic

Appearance: liquid

Storage:  $-20^{\circ}C$

Mol. Wt.: 146

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, methanol

CAS#: 21188-58-9

Identity: confirmed by MS

**1745**      **3-Hydroxyoctanoic acid**      **25 mg**  
3-Hydroxy C8:0 fatty acid

$C_8H_{16}O_3$

Source: synthetic

Appearance: solid

Storage:  $-20^{\circ}C$

Mol. Wt.: 160

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, methanol

CAS#: 88930-08-9

Identity: confirmed by MS

**1746**      **Methyl 3-hydroxyoctanoate**      **25 mg**  
3-Hydroxy C8:0 methyl ester

$C_9H_{18}O_3$

Source: synthetic

Appearance: liquid

Storage:  $-20^{\circ}C$

Mol. Wt.: 174

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, ethyl ether

CAS#: 85549-54-8

Identity: confirmed by MS

**1725**      **3-Hydroxynonanoic acid**      **25 mg**  
3-Hydroxy C9:0 fatty acid

$C_9H_{18}O_3$

Source: synthetic

Appearance: solid

Storage:  $-20^{\circ}C$

Mol. Wt.: 174

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, methanol

Melting Point ( $^{\circ}C$ ): 60-62

CAS#: 88930-09-0

**1726**      **Methyl 3-hydroxynonanoate**      **25 mg**  
3-Hydroxy C9:0 methyl ester

$C_{10}H_{20}O_3$

Source: synthetic

Appearance: liquid

Storage:  $-20^{\circ}C$

Mol. Wt.: 188

Purity: 98+% by TLC, GC

Solubility: chloroform, ethanol, ethyl ether

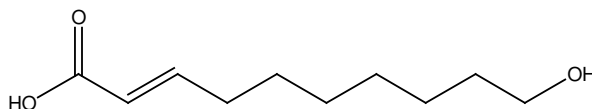
CAS#: 83968-06-3



<b>1727</b>	<b>3-Hydroxydecanoic acid</b> 3-Hydroxy C10:0 fatty acid	<b>25 mg</b>
	<b>C<sub>10</sub>H<sub>20</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 188 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol <b>Melting Point (°C):</b> 57-60
		<b>CAS#:</b> 5561-87-5 <b>Identity:</b> confirmed by MS
<b>1728</b>	<b>Methyl 3-hydroxydecanoate</b> 3-Hydroxy C10:0 methyl ester	<b>25 mg</b>
	<b>C<sub>11</sub>H<sub>22</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 202 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol
		<b>CAS#:</b> 62675-82-5
<b>1729</b>	<b>3-Hydroxyundecanoic acid</b> 3-Hydroxy C11:0 fatty acid	<b>25 mg</b>
	<b>C<sub>11</sub>H<sub>22</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 202 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol <b>Melting Point (°C):</b> 74-76
		<b>CAS#:</b> 40165-88-6
<b>1730</b>	<b>Methyl 3-hydroxyundecanoate</b> 3-Hydroxy C11:0 methyl ester	<b>25 mg</b>
	<b>C<sub>12</sub>H<sub>24</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 216 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol
		<b>CAS#:</b> 127593-21-9
<b>1731</b>	<b>3-Hydroxydodecanoic acid</b> 3-Hydroxy C12:0 fatty acid	<b>25 mg</b>
	<b>C<sub>12</sub>H<sub>24</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 216 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 71-72
		<b>CAS#:</b> 1883-13-2
<b>1732</b>	<b>Methyl 3-hydroxydodecanoate</b> 3-Hydroxy C12:0 methyl ester	<b>25 mg</b>
	<b>C<sub>13</sub>H<sub>26</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 230 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, ethyl ether
		<b>CAS#:</b> 85464-97-7 <b>Identity:</b> confirmed by MS
<b>1733</b>	<b>3-Hydroxytridecanoic acid</b> 3-Hydroxy C13:0 fatty acid	<b>25 mg</b>
	<b>C<sub>13</sub>H<sub>26</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 230 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol <b>Melting Point (°C):</b> 80-83
		<b>CAS#:</b> 32602-69-0
<b>1734</b>	<b>Methyl 3-hydroxytridecanoate</b> 3-Hydroxy C13:0 methyl ester	<b>25 mg</b>
	<b>C<sub>14</sub>H<sub>28</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 244 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether

<b>1735</b>	<b>3-Hydroxytetradecanoic acid</b> 3-Hydroxy C14:0 fatty acid	<b>25 mg</b>
	<b>C<sub>14</sub>H<sub>28</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 244 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol <b>Melting Point (°C):</b> 80-81
		<b>CAS#:</b> 3422-31-9 <b>Identity:</b> confirmed by MS
<b>1736</b>	<b>Methyl 3-hydroxytetradecanoate</b> 3-Hydroxy C14:0 methyl ester	<b>25 mg</b>
	<b>C<sub>15</sub>H<sub>30</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 258 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, methanol <b>Melting Point (°C):</b> 36-37
		<b>CAS#:</b> 55682-83-2 <b>Identity:</b> confirmed by MS
<b>1739</b>	<b>3-Hydroxyhexadecanoic acid</b> 3-Hydroxy C16:0 fatty acid	<b>25 mg</b>
	<b>C<sub>16</sub>H<sub>32</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 272 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol <b>Melting Point (°C):</b> 85-86
		<b>CAS#:</b> 928-17-6 <b>Identity:</b> confirmed by MS
<b>1740</b>	<b>Methyl 3-hydroxyhexadecanoate</b> 3-Hydroxy C16:0 methyl ester	<b>25 mg</b>
	<b>C<sub>17</sub>H<sub>34</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 286 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 43-45
		<b>CAS#:</b> 51883-36-4 <b>Identity:</b> confirmed by MS
<b>1741</b>	<b>3-Hydroxyheptadecanoic acid</b> 3-Hydroxy C17:0 fatty acid	<b>25 mg</b>
	<b>C<sub>17</sub>H<sub>34</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 286 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 93-95
		<b>CAS#:</b> 40165-89-7
<b>1742</b>	<b>Methyl 3-hydroxyheptadecanoate</b> 3-Hydroxy C17:0 methyl ester	<b>25 mg</b>
	<b>C<sub>18</sub>H<sub>36</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 300 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 53-55
		<b>CAS#:</b> 112538-92-8
<b>1743</b>	<b>3-Hydroxyoctadecanoic acid</b> 3-Hydroxy C18:0 fatty acid	<b>25 mg</b>
	<b>C<sub>18</sub>H<sub>36</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 300 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 52-54
		<b>CAS#:</b> 45261-96-9 <b>Identity:</b> confirmed by MS
<b>1744</b>	<b>Methyl 3-hydroxyoctadecanoate</b> 3-Hydroxy C18:0 methyl ester	<b>25 mg</b>
	<b>C<sub>19</sub>H<sub>38</sub>O<sub>3</sub></b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 314 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> ethanol, methanol <b>Melting Point (°C):</b> 52-54
		<b>CAS#:</b> 14531-40-9

## Omega Hydroxy Fatty Acids



**1754**      **Royal Jelly acid**      **50 mg**  
 10-Hydroxy-2-(E)-decanoic acid; *omega*-Hydroxy C10:1 (2-*trans*) fatty acid; 10-HDA

$C_{10}H_{18}O_3$       **Mol. Wt.:** 186      **CAS#:** 14113-05-4  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:** -20°C      **Melting Point (°C):** 63-65

**1881**      **15-Hydroxypentadecanoic acid**      **25 mg**  
*omega*-Hydroxy C15:0 fatty acid

$C_{15}H_{30}O_3$       **Mol. Wt.:** 258      **CAS#:** 4617-33-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol  
**Storage:** room temperature      **Melting Point (°C):** 84-86

**1882**      **Methyl 15-hydroxypentadecanoate**      **25 mg**  
*omega*-Hydroxy C15:0 methyl ester

$C_{16}H_{32}O_3$       **Mol. Wt.:** 272      **CAS#:** 76529-42-5  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 50-52

**1760**      **17-Hydroxyheptadecanoic acid**      **25 mg**  
*omega*-Hydroxy C17:0 fatty acid

$C_{17}H_{34}O_3$       **Mol. Wt.:** 286      **CAS#:** 13099-34-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 93-95

**1761**      **Methyl 17-hydroxyheptadecanoate**      **25 mg**  
*omega*-Hydroxy C17:0 methyl ester

$C_{18}H_{36}O_3$       **Mol. Wt.:** 300      **CAS#:** 94036-00-7  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 59-63

**1877**      **20-Hydroxyeicosanoic acid**      **25 mg**  
*omega*-Hydroxy C20:0 fatty acid

$C_{20}H_{40}O_3$       **Mol. Wt.:** 328      **CAS#:** 62643-46-3  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol  
**Storage:** room temperature      **Melting Point (°C):** 96-98

**1878**      **Methyl 20-hydroxyeicosanoate**      **25 mg**  
*omega*-Hydroxy C20:0 methyl ester

$C_{21}H_{42}O_3$       **Mol. Wt.:** 342      **CAS#:** 37477-29-5  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 69-71

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**1880**      **Methyl 21-hydroxyheneicosanoate**      **25 mg**  
*omega*-Hydroxy C21:0 methyl ester

$C_{22}H_{44}O_3$       **Mol. Wt.:** 356      **CAS#:** 94035-98-0  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 73-76

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**1818**      **22-Hydroxydocosanoic acid**      **25 mg**  
*omega*-Hydroxy C22:0 fatty acid

$C_{22}H_{44}O_3$       **Mol. Wt.:** 356      **CAS#:** 506-45-6  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform/methanol, 2:1  
**Storage:** room temperature      **Melting Point (°C):** 100-102

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**1819**      **Methyl 22-hydroxydocosanoate**      **25 mg**  
*omega*-Hydroxy C22:0 methyl ester

$C_{23}H_{46}O_3$       **Mol. Wt.:** 370  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, warm ethanol, ethyl ether  
**Storage:** room temperature      **Melting Point (°C):** 73-75

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**1883**      **Methyl 27-hydroxyheptacosanoate**      **25 mg**  
*omega*-Hydroxy C27:0 methyl ester

$C_{28}H_{56}O_3$       **Mol. Wt.:** 440  
**Source:** synthetic      **Purity:** 97+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform  
**Storage:** room temperature      **Melting Point (°C):** 85-89

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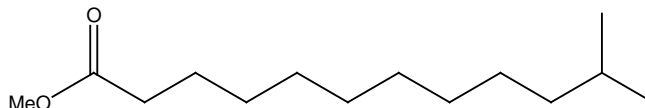
**1884**      **Methyl 30-hydroxytriacontanoate**      **25 mg**  
*omega*-Hydroxy C30:0 methyl ester

$C_{31}H_{62}O_3$       **Mol. Wt.:** 482      **CAS#:** 79162-70-2  
**Source:** synthetic      **Purity:** 97+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** solid      **Solubility:** chloroform  
**Storage:** room temperature      **Melting Point (°C):** 88-91

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## Branched and Cyclic Fatty Acids

### Iso-Fatty Acids and Methyl Esters



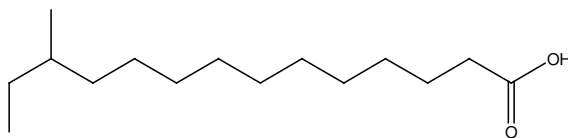
**1656**      **Methyl 11-methyldodecanoate**      **20 mg**  
iso-Tridecanoic methyl ester; iso C13 Methyl ester

$C_{14}H_{28}O_2$       **Mol. Wt.:** 228      **CAS#:** 5129-57-7  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** hexane, ethyl ether, methylene chloride  
**Storage:** -20°C

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<b>1657</b>	<b>Methyl 12-methyltridecanoate</b> iso-Tetradecanoic methyl ester; iso C14 Methyl ester	<b>20 mg</b>
	$C_{15}H_{30}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 242 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 5129-58-8
<b>1605</b>	<b>13-Methyltetradecanoic acid</b> iso-Pentadecanoic acid; iso C15 Fatty acid	<b>20 mg</b>
	$C_{15}H_{30}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 242 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 2485-71-4
<b>1600</b>	<b>Methyl 13-methyltetradecanoate</b> iso-Pentadecanoic methyl ester; iso C15 Methyl ester	<b>20 mg</b>
	$C_{16}H_{32}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 256 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 5129-59-9
<b>1601</b>	<b>Methyl 14-methylpentadecanoate</b> iso-Palmitic methyl ester; iso C16 Methyl ester	<b>20 mg</b>
	$C_{17}H_{34}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 270 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 5129-60-2
<b>1606</b>	<b>15-Methylhexadecanoic acid</b> iso-Heptadecanoic acid; iso C17 Fatty acid	<b>20 mg</b>
	$C_{17}H_{34}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 270 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 1603-03-8
<b>1602</b>	<b>Methyl 15-methylhexadecanoate</b> iso-Heptadecanoic methyl ester; iso C17 Methyl ester	<b>20 mg</b>
	$C_{18}H_{36}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 284 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 6929-04-0
<b>1603</b>	<b>Methyl 17-methyloctadecanoate</b> iso-Nonadecanoic methyl ester; iso C19 Methyl ester	<b>20 mg</b>
	$C_{20}H_{40}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 313 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethyl ether, ethanol
		<b>CAS#:</b> 55124-97-5

## Anteiso-Fatty Acids and Methyl Esters



**1615**      **12-Methyltetradecanoic acid**      **20 mg**  
anteiso-Pentadecanoic acid; anteiso C15 Fatty acid

$C_{15}H_{30}O_2$       **Mol. Wt.:** 242      **CAS#:** 5502-94-3  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^{\circ}C$

**1612**      **Methyl 12-methyltetradecanoate**      **20 mg**  
anteiso-Pentadecanoic methyl ester; anteiso C15 Methyl ester

$C_{16}H_{32}O_2$       **Mol. Wt.:** 256      **CAS#:** 5129-66-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^{\circ}C$

**1613**      **Methyl 13-methylpentadecanoate**      **20 mg**  
anteiso-Palmitic methyl ester; anteiso C16 Methyl ester

$C_{17}H_{34}O_2$       **Mol. Wt.:** 270      **CAS#:** 5487-50-3  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^{\circ}C$

**1616**      **14-Methylhexadecanoic acid**      **20 mg**  
anteiso-Heptadecanoic acid; anteiso C17 Fatty acid

$C_{17}H_{34}O_2$       **Mol. Wt.:** 270      **CAS#:** 5918-29-6  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^{\circ}C$

**1614**      **Methyl 14-methylhexadecanoate**      **20 mg**  
anteiso-Heptadecanoic methyl ester; anteiso C17 Methyl ester

$C_{18}H_{36}O_2$       **Mol. Wt.:** 284      **CAS#:** 2490-49-5  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform, ethyl ether, ethanol  
**Storage:**  $-20^{\circ}C$

## Other Branched Methyl Fatty Acids

**1207**      **D,L-2,6-Dimethylheptanoic acid**      **50 mg**  
2,6-Dimethyl C7:0 fatty acid

$C_9H_{18}O_2$       **Mol. Wt.:** 158      **CAS#:** 60148-94-9  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform  
**Storage:** room temperature

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**1792**      **Methyl 10-methylhexadecanoate**      **25 mg**  
 10-Methyl C16:0 methyl ester

$C_{18}H_{36}O_2$       **Mol. Wt.:** 284      **CAS#:** 2490-51-9  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** liquid      **Solubility:** chloroform  
**Storage:** room temperature

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**1195**      **Phytanic acid**      **25 mg**  
 3,7,11,15-Tetramethylhexadecanoic acid

$C_{20}H_{40}O_2$       **Mol. Wt.:** 312      **CAS#:** 14721-66-5  
**Source:** semisynthetic      **Purity:** 97+% by GC  
**Appearance:** liquid      **Solubility:** chloroform, methanol  
**Storage:** -20°C

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### Cyclopropyl Fatty Acids and Methyl Esters

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**1822**      ***cis*-9,10-Methyleneoctadecanoic acid**      **25 mg**  
 Dihydrosterculic acid

$C_{19}H_{36}O_2$       **Mol. Wt.:** 296      **CAS#:** 4675-61-0  
**Source:** synthetic      **Purity:** 98+% by TLC, GC  
**Appearance:** solid      **Solubility:** chloroform, ethanol, methanol, hexane  
**Storage:** -20°C      **Melting Point (°C):** 38-42

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**1823**      **Methyl *cis*-9,10-methyleneoctadecanoate**      **25 mg**  
 Methyl dihydrosterculate

$C_{20}H_{38}O_2$       **Mol. Wt.:** 310      **CAS#:** 3971-54-8  
**Source:** synthetic      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, methanol, hexane  
**Storage:** -20°C

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**1238**      **Methyl malvalate**      **5 mg**  
**\*NEW\***      Methyl 8,9-methylene-heptadec-8Z-enoate; Methyl 2-octyl-1-cyclopropene-1-heptanoate

$C_{19}H_{34}O_2$       **Mol. Wt.:** 294      **CAS#:** 5026-66-4  
**Source:** natural, plant      **Purity:** 95+% by TLC, GC  
**Appearance:** liquid      **Solubility:** hexane, ethyl ether, chloroform, methanol  
**Storage:** -20°C

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**1235**      **Sterculic acid**      **25 mg**  
**\*NEW\***      9,10-Methylene-octadec-9-enoic acid; 2-Octyl-1-cyclopropene-1-octanoic acid

$C_{19}H_{34}O_2$       **Mol. Wt.:** 295      **CAS#:** 738-87-4  
**Source:** natural, plant      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, hexane, ethyl ether, methanol  
**Storage:** -20°C

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**1236**      **Methyl sterculate**      **25 mg**  
**\*NEW\***      Methyl 9,10-methyleneoctadec-9-enoate; Methyl 2-octyl-1-cyclopropene-1-octanoate

$C_{20}H_{36}O_2$       **Mol. Wt.:** 309      **CAS#:** 3220-60-8  
**Source:** natural, plant      **Purity:** 98+% by TLC, GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, hexane, ethyl ether, methanol  
**Storage:** -20°C

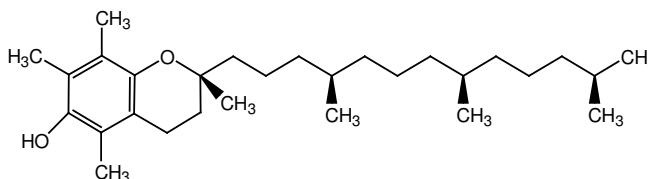
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## Unusual Fatty Acids and Derivatives

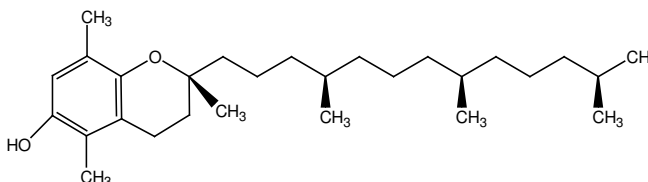
1751	<b>N-Oleylethanolamine</b> NOE	100 mg	
	$C_{20}H_{39}NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> $-20^{\circ}C$ <b>Activity:</b> acid ceramidase inhibitor	<b>Mol. Wt.:</b> 326 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, ethanol, methanol, ethyl ether, DMSO <b>Melting Point (<math>^{\circ}C</math>):</b> 63-66	<b>CAS#:</b> 111-58-0 <b>Identity:</b> confirmed by MS

## Vitamin E

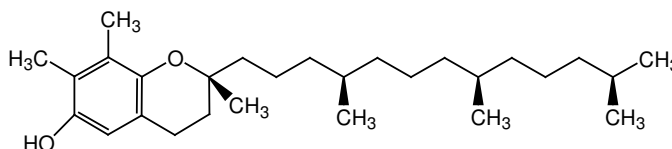
### Tocopherols



1072	<b>rac-alpha-Tocopherol</b> 5,7,8-Trimethyltolcol	50 mg/ml, 1 ml	
	$C_{29}H_{50}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 431 <b>Purity:</b> 95% by TLC, 98% by GC, HPLC <b>Solubility:</b> chloroform, ethanol, hexane, methanol <b>Solvent:</b> hexane	<b>CAS#:</b> 10191-41-0 <b>Identity:</b> confirmed by MS

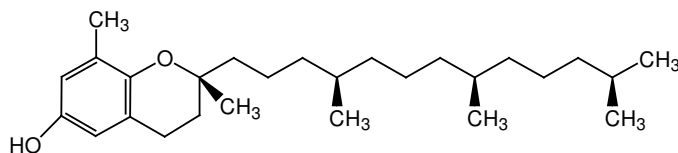


1071	<b>rac-beta-Tocopherol</b> 5,8-Dimethyltolcol	50 mg/ml, 1 ml	
	$C_{28}H_{48}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 417 <b>Purity:</b> 95% by TLC, 98% by GC, HPLC <b>Solubility:</b> chloroform, ethanol, hexane, methanol <b>Solvent:</b> hexane	<b>CAS#:</b> 148-03-8 <b>Identity:</b> confirmed by MS



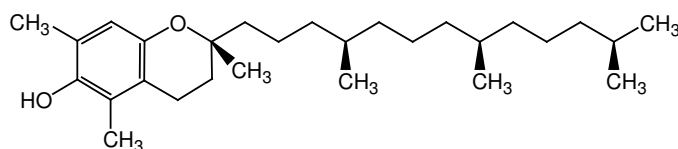
1073	<b>rac-gamma-Tocopherol</b> 7,8-Dimethyltolcol	50 mg/ml, 1 ml	
	$C_{28}H_{48}O_2$ <b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> $-20^{\circ}C$	<b>Mol. Wt.:</b> 417 <b>Purity:</b> 95% by TLC, 96% by GC, HPLC <b>Solubility:</b> chloroform, ethanol, hexane, methanol <b>Solvent:</b> hexane	<b>CAS#:</b> 73980-80-0 <b>Identity:</b> confirmed by MS





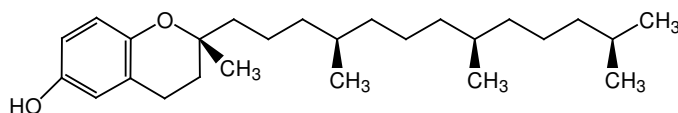
**1790**      **(+)-*delta*-Tocopherol**      **50 mg/ml, 1 ml**  
8-Methyltolcol

$C_{27}H_{46}O_2$       **Mol. Wt.:** 403      **CAS#:** 119-13-1  
**Source:** natural, plant      **Purity:** 95% by TLC, 98% by GC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** chloroform, ethanol, hexane, methanol  
**Storage:**  $-20^{\circ}C$       **Solvent:** hexane



**1074**      ***rac*-5,7-Dimethyltolcol**      **50 mg/ml, 1 ml**

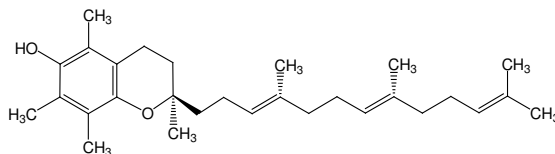
$C_{28}H_{48}O_2$       **Mol. Wt.:** 417      **CAS#:** 493-35-6  
**Source:** synthetic      **Purity:** 95% by TLC, 98% by GC, HPLC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** hexane, ethyl ether, chloroform, alcohols  
**Storage:**  $-20^{\circ}C$       **Solvent:** hexane



**1797**      **Tocol**      **50 mg/ml, 1 ml**  
*rac*-Tocol

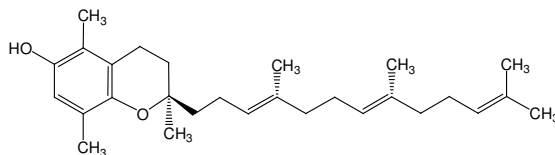
$C_{26}H_{44}O_2$       **Mol. Wt.:** 389      **CAS#:** 119-98-2  
**Source:** synthetic      **Purity:** 95% by TLC, 98% by GC, HPLC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** hexane, methanol, ethanol  
**Storage:**  $-20^{\circ}C$       **Solvent:** hexane

## Tocotrienols



**2109**      ***alpha*-Tocotrienol**      **25 mg**  
3,4-Dihydro-2,5,7,8-tetramethyl-2R-[(3E,7E)-4,8,12-trimethyl-3,7,11-tridecatrienyl]-2H-1-benzopyran-6-ol

$C_{29}H_{44}O_2$       **Mol. Wt.:** 425      **CAS#:** 58864-81-6  
**Source:** natural, plant      **Purity:** 98+% by TLC, GC, HPLC      **Identity:** confirmed by MS  
**Appearance:** liquid      **Solubility:** hexane, ethyl ether, ethanol



**2110      *beta*-Tocotrienol      25 mg**

[R-(E,E)]-3,4-Dihydro-2,5,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol

$C_{28}H_{42}O_2$

**Mol. Wt.:** 411

**CAS#:** 490-23-3

**Source:** semisynthetic, plant

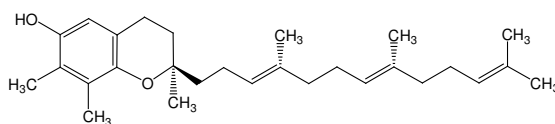
**Purity:** 98+% by TLC, GC, HPLC

**Identity:** confirmed by MS

**Appearance:** liquid

**Solubility:** chloroform, ethyl ether, hexane

**Storage:**  $-20^{\circ}C$



**2111      *gamma*-Tocotrienol      25 mg**

[R-(E,E)]-3,4-Dihydro-2,7,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol

$C_{28}H_{42}O_2$

**Mol. Wt.:** 411

**CAS#:** 14101-61-2

**Source:** natural, plant

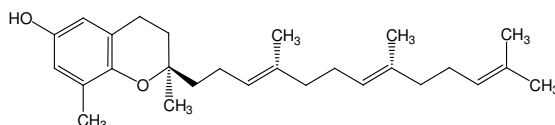
**Purity:** 98+% by TLC, GC, HPLC

**Identity:** confirmed by MS

**Appearance:** liquid

**Solubility:** chloroform, ethyl ether, hexane

**Storage:**  $-20^{\circ}C$



**2112      *delta*-Tocotrienol      25 mg**

[R-(E,E)]-3,4-Dihydro-2,8-dimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol

$C_{27}H_{40}O_2$

**Mol. Wt.:** 397

**CAS#:** 25612-59-3

**Source:** natural, plant

**Purity:** 98+% by TLC, GC, HPLC

**Identity:** confirmed by MS

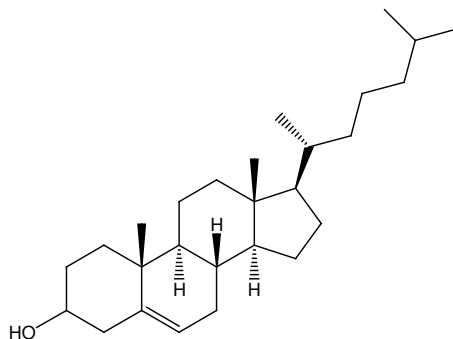
**Appearance:** liquid

**Solubility:** chloroform, ethyl ether, hexane

**Storage:**  $-20^{\circ}C$

## Sterols

### Cholestane Derivatives



**1006**      **Cholesterol**      **500 mg**

$C_{27}H_{46}O$

**Source:** natural, ovine

**Appearance:** solid

**Storage:**  $-20^{\circ}C$

**Mol. Wt.:** 387

**Purity:** 98+% by TLC, GC

**Solubility:** chloroform, ethanol

**Melting Point ( $^{\circ}C$ ):** 147-148

**CAS#:** 57-88-5

**1115**      **5- $\alpha$ -Cholestane**      **100 mg**

$C_{27}H_{48}$

**Source:** synthetic

**Appearance:** solid

**Storage:**  $-20^{\circ}C$

**Mol. Wt.:** 373

**Purity:** 98+% by TLC, GC

**Solubility:** chloroform, ethyl ether, hexane

**CAS#:** 481-21-0

**1116**      **Coprostanol**      **25 mg**

5- $\beta$ -Cholestan-3- $\beta$ -ol

$C_{27}H_{48}O$

**Source:** semisynthetic

**Appearance:** solid

**Storage:**  $-20^{\circ}C$

**Mol. Wt.:** 389

**Purity:** 98+% by TLC, GC

**Solubility:** chloroform, ethyl ether, warm methanol

**Melting Point ( $^{\circ}C$ ):** 101-103

**CAS#:** 360-68-9

## Plant Sterols and Steryl Glucosides

**1119**      **Plant Sterol Mixture**      **25 mg/ml, 1 ml**

Sterol mixture, qualitative

**Source:** natural, plant

**Appearance:** liquid

**Storage:**  $-20^{\circ}C$

**Solubility:** chloroform

**Solvent:** chloroform

**Contains:** Brassicasterol (14%), Campesterol (28%), Stigmasterol (12%),  $\beta$ -Sitosterol (43%), in order of elution. Percentages are approximate.

**1123**      **Plant Sterols Kit**      **1 kit**

**Source:** synthetic or plant

**Appearance:** liquid/solid

**Storage:**  $-20^{\circ}C$

**Solubility:** chloroform

**Solvent:** chloroform

**Contains in individual packages:**

Steryl Glucosides	25 mg	Lanosterol (55%)	100 mg
Esterified Steryl Glucosides	10 mg	Stigmasterol	25 mg
Plant Sterol Mixture	25 mg	Ergosterol	25 mg
$\beta$ -Sitosterol (55%)	100 mg	Coprostanol	5 mg
Desmosterol (98%)	2 mg	Cholestanol	100 mg

<b>1113</b>	<b><i>beta</i>-Sitostanol</b> Stigmastanol		<b>50 mg</b>
	<b>C<sub>29</sub>H<sub>52</sub>O</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 417 <b>Purity:</b> 98+% by TLC, 97+% by GC <b>Solubility:</b> chloroform <b>Melting Point (°C):</b> 127-132	<b>CAS#:</b> 83-45-4
<b>1120</b>	<b>Lanosterol</b>		<b>500 mg</b>
	<b>C<sub>30</sub>H<sub>50</sub>O</b> <b>Source:</b> synthetic or plant <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 427 <b>Purity:</b> 55% by TLC, GC <b>Solubility:</b> chloroform	<b>CAS#:</b> 79-63-0
<b>1121</b>	<b>Stigmasterol</b> 5,22-Cholestadien-24- <i>beta</i> -ethyl-3- <i>beta</i> -ol		<b>100 mg</b>
	<b>C<sub>29</sub>H<sub>48</sub>O</b> <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 413 <b>Purity:</b> 95% by TLC, GC <b>Solubility:</b> chloroform <b>Melting Point (°C):</b> 165-167	<b>CAS#:</b> 83-48-7
<b>1122</b>	<b>Ergosterol</b>		<b>100 mg</b>
	<b>C<sub>28</sub>H<sub>44</sub>O</b> <b>Source:</b> synthetic or plant <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 397 <b>Purity:</b> 95% by TLC, GC <b>Solubility:</b> chloroform <b>Melting Point (°C):</b> 156-158	<b>CAS#:</b> 57-87-4
<b>1117</b>	<b>Steryl Glucosides</b> Sterolins		<b>25 mg</b>
	<b>C<sub>35</sub>H<sub>60</sub>O<sub>6</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> -20°C Sitosteryl (55.9%), Campesteryl (24.6%), Stigmasteryl (18.1%), <i>delta</i> -5-Avenasteryl (1.4%) Percentages are approximate. K. Phillips, J. of Food and Lipids, Vol. 12 pp.124-140 (2005)	<b>Mol. Wt.:</b> 577 (based on <i>beta</i> -sitosteryl glucoside) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1 (warm) <b>Melting Point (°C):</b> 283-287	<b>Identity:</b> confirmed by MS
<b>1118</b>	<b>Esterified Steryl Glucosides</b> Esterified sterolins		<b>10 mg</b>
	<b>C<sub>51</sub>H<sub>90</sub>O<sub>7</sub></b> <b>Source:</b> natural, plant <b>Appearance:</b> solid <b>Storage:</b> -20°C Sterol, glucose and fatty acid in a molar ratio 1:1:1. Sitosterol (major), Campesterol, Stigmasterol See Table III (pg. 106) for typical fatty acid content of products prepared from natural sources.	<b>Mol. Wt.:</b> 815 (based on <i>beta</i> -sitosteryl glucoside palmitate) <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, ethyl ether, pyridine	<b>Identity:</b> confirmed by MS

# Standards and Reference Compounds

## Food Industry Mixtures

Each methyl ester mixture is carefully prepared by weight.

**4210**      **KEL-FIM-FAME-5 Mixture**      **15.5 mg/ml, 1 ml**  
Methyl ester mixture, quantitative

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** heptane

**Contains the methyl esters of the following fatty acids (mg/ml in [brackets]):**  
C8:0 [0.3], C10:0 [0.5], C12:0 [1.0], C13:0 [0.5], C14:0 [0.5], C14:1 [0.3], C15:0 [0.3],  
C16:0 [2.0], C16:1 [1.0], C17:0 [0.5], C18:0 [1.0], C18:1tr [0.4], C18:1c [3.0], C18:2 [2.0],  
C20:0 [0.3], C18:3 [1.0], C20:1 [0.3], C22:0 [0.3], C22:1 [0.3]  
Listed in order of their elution using a SP-2330 30m x 0.25mm x 0.2µm capillary column.

**2009**      **FIM-FAME-6 Mixture**      **33 mg/ml, 1 ml**  
Methyl ester mixture, quantitative

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** heptane

**Contains the methyl esters of these fatty acids.** Each methyl ester is 3.03% of the mixture except C16:0 which is 6.06%.  
C4:0 , C6:0 , C8:0, C10:0 , C11:0, C12:0, C13:0 , C14:0, C14:1(*cis*-9), C15:0, C15:1(*cis*-10),  
C16:0, C16:1(*cis*-9), C17:0, C17:1(*cis*-10), C18:0, C18:1(*trans*-9), C18:1(*cis*-9), C18:2(all *cis*-9,12),  
C20:0, C18:3(all *cis*-6,9,12), C20:1(*cis*-11), C18:3(all *cis*-9,12,15), C20:2(all *cis*-11,14), C22:0,  
C20:3(all *cis*-8,11,14), C22:1(*cis*-13), C20:3(all *cis*-11,14,17), C20:4(all *cis*-5,8,11,14),  
C22:2(all *cis*-13,16), C24:1(*cis*-15), C22:6(all *cis*-4,7,10,13,16,19)  
Listed in order of their elution using a SP-2560 100m x 0.25mm x 0.2µm capillary column.

**2010**      **FIM-FAME-7 Mixture**      **30 mg/ml, 1 ml**  
Methyl ester mixture, quantitative

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** methylene chloride

**Contains the methyl esters of these fatty acids. (weight percent in [brackets]):**  
C4:0 [4.0], C6:0 [4.0], C8:0 [4.0], C10:0 [4.0], C11:0 [2.0], C12:0 [4.0], C13:0 [2.0], C14:0 [4.0],  
C14:1(*cis*-9) [2.0], C15:0 [2.0], C15:1(*cis*-10) [2.0], C16:0 [6.0], C16:1(*cis*-9) [2.0], C17:0 [2.0],  
C17:1(*cis*-10) [2.0], C18:0 [4.0], C18:1(*trans*-9) [2.0], C18:1(*cis*-9) [4.0], C18:2(all *trans*-9,12) [2.0],  
C18:2(all *cis*-9,12) [2.0], C20:0 [4.0], C18:3(all *cis*-6,9,12) [2.0], C20:1(*cis*-11) [2.0],  
C18:3(all *cis*-9,12,15) [2.0], C21:0 [2.0], C20:2(all *cis*-11,14) [2.0], C22:0 [4.0],  
C20:3 (all *cis*-8,11,14) [2.0], C22:1(*cis*-13) [2.0], C20:3(all *cis*-11,14,17) [2.0],  
C20:4(all *cis*-5,8,11,14) [2.0], C23:0 [2.0], C22:2(all *cis*-13,16) [2.0], C24:0 [4.0],  
C20:5(all *cis*-5,8,11,14,17) [2.0], C24:1(*cis*-15) [2.0], C22:6(all *cis*-4,7,10,13,16,19) [2.0]  
Listed in order of their elution using a SP-2560 100m x 0.25mm x 0.2µm capillary column.

**2012**      **FIM-FAME-8 Mixture**      **25 mg/ml, 1 ml**  
C18 Quantitative mixture

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** methylene chloride

**Contains the methyl esters of these fatty acids (weight percent in [brackets]):**  
C18:0 [20.0], C18:1 [20.0], C18:2 [20.0], C18:3 [20.0], C18:4 [20.0]  
Listed in order of their elution using a SP-2330 30m x 0.25mm x 0.2µm capillary column.

<b>2013</b>	<b>FIM-FAME-9 Mixture</b> C20 Quantitative mixture	<b>25 mg/ml, 1 ml</b>
	<b>Source:</b> synthetic or plant <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> methylene chloride <b>Contains the methyl esters of these fatty acids (weight percent in [brackets]):</b> C20:0 [14.3], C20:1 [14.3], C20:2 [14.3], C20:3 [14.3], C20:4 [14.3], C20:5 [14.3], C22:6 [14.3] Listed in order of their elution using a SP-2330 100m x 0.25mm x 0.2µm capillary column.	

## Polyunsaturated Fatty Acid Methyl Ester Mixtures

These are complex qualitative standard mixtures of polyunsaturated fatty acid methyl esters. Because they are extracted from natural materials, relative peak sizes may vary from lot to lot.

<b>1093</b>	<b>PUFA-1</b> Qualitative mixture	<b>100 mg</b>
	<b>Source:</b> natural, fish oil <b>Appearance:</b> liquid <b>Solubility:</b> chloroform, ethanol, hexane, methanol <b>Storage:</b> -20°C <b>Contains:</b> C14:0, C16:0, C16:1ω7, C18:1ω9, C18:1ω7, C18:2ω6, C20:1ω9, C18:4ω3, C22:1ω11, C22:1ω9, C20:5ω3, C22:5ω3, C22:6ω3	

<b>1081</b>	<b>PUFA-2</b> Qualitative mixture	<b>100 mg</b>
	<b>Source:</b> natural, porcine <b>Appearance:</b> liquid <b>Solubility:</b> alcohols, hexane, chloroform <b>Storage:</b> -20°C <b>Contains:</b> C14:0, C16:0, C16:1ω7, C18:0, C18:1ω9, C18:1ω7, C18:2ω6, C18:3ω6, C18:3ω3, C20:1ω9, C20:2ω6, C20:3ω6, C20:4ω6, C20:5ω3, C22:4ω6, C22:5ω3, C22:6ω3	

<b>1177</b>	<b>PUFA-3</b> Qualitative mixture	<b>100 mg</b>
	<b>Source:</b> natural, menhaden oil <b>Appearance:</b> liquid <b>Solubility:</b> alcohols, hexane, chloroform <b>Storage:</b> -20°C <b>Contains:</b> C14:0, C16:0, C16:1ω7, C16:2ω4, C16:3ω4, C16:4ω1, C18:0, C18:1ω9, C18:1ω7, C18:2ω6, C18:2ω4, C18:3ω4, C18:3ω3, C18:4ω3, C20:1ω9, C20:4ω6, C20:4ω3, C20:5ω3, C21:5ω3, C22:5ω3, C22:6ω3	

## Carbohydrate Mixtures

<b>1124</b>	<b>Alditol Acetate Mixture-1</b> Quantitative carbohydrate mixture	<b>50 mg/ml, 1 ml</b>
	<b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform <b>Contains:</b> rhamnitol, fucitol, ribitol and arabinitol pentaacetates, 12.5 mg/ml each	

<b>1125</b>	<b>Alditol Acetate Mixture-2</b> Quantitative carbohydrate mixture	<b>50 mg/ml, 1 ml</b>
	<b>Source:</b> synthetic <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform <b>Contains:</b> mannitol, galactitol, glucitol and inositol hexaacetates, 12.5 mg/ml each	

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## Other Fatty Acid Methyl Ester Mixtures

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**1722**      **2-Hydroxy Methyl Ester Mixture**      **10 mg/ml, 1 ml**  
Quantitative mixture

**Source:** synthetic

**Appearance:** liquid

**Storage:** -20°C

**Solvent:** chloroform

**Contains:** 2-OH C14:0, 20.0%; 2-OH C16:0, 20.0%; 2-OH C18:0, 15.0%; 2-OH C20:0, 15.0%;  
2-OH C22:0, 10.0%; 2-OH C23:0, 10.0%; 2-OH C24:0, 10.0%

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**1131**      **Cis-Trans FAME Isomer Standard Mixture**      **5.5 mg/ml, 5 ml**

**Source:** margarine

**Appearance:** liquid

**Storage:** -20°C

**Solvent:** methylene chloride

**Analysis of positional *cis-trans* fatty acid isomers is ever more important in light of the new food industry rules.**

**These isomers can be resolved on Supelco SP-2560 or an equivalent capillary GC column.**

**Use this specially formulated mixture to ensure proper operation of your column for this tricky separation.**

**Mixture consists of *cis-trans* fatty acid isomers as methyl esters in methylene chloride.**

**This is a qualitative mixture containing:**

**C16:0, C18:0, C18:1 *trans* isomers (4 peaks), C18:1 *cis* & *trans* isomers (2 peaks),**

**C18:1 *cis* isomers (4 peaks), C18:2, C20:0, C20:1 and C18:3 (same peak), C22:0**

Listed in order of their elution using a SP-2560 100m x 0.25mm x 0.2µm capillary column.

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**2011**      **Long Chain Fatty Acid Methyl Ester Mixture**      **25 mg/ml, 1 ml**  
C24:0, C26:0, C28:0, C30:0, C32:0 Fatty acid methyl ester mixture

**Source:** synthetic

**Appearance:** liquid

**Storage:** -20°C

**Solvent:** methylene chloride

**Quantitative mixture contains:** C24:0, 20.0%; C26:0, 20.0%; C28:0, 20.0%; C30:0, 20.0%; C32:0, 20.0%

## AOCS Animal and Vegetable Oil Reference Mixtures (RM Mixtures)

By studying problems with the quantitative analysis of animal and vegetable oils and fats, the American Oil Chemists' Society has found certain mixtures to be useful as reference standards. The composition of each mixture (see Table I below) is similar to the fatty acid distribution of certain oils. All mixtures are in methyl ester form and ready for GC analysis

**Table I. AOCS Oil Reference Mixtures**

Each methyl ester mixture is carefully prepared by weight and the composition verified by gas chromatography. The weight percentage of each component is indicated in the Table.

Mix No. Catalog No.	RM-1 1084	RM-2 1085	RM-3 1086	Rapeseed 1083	RM-4 1087	RM-5 1088	RM-6 1089
C8:0 Caprylate						7.0	
C10:0 Caprate						5.0	
C12:0 Laurate						48.0	
C14:0 Myristate			1.0	1.0		15.0	2.0
C16:0 Palmitate	6.0	7.0	4.0	4.0	11.0	7.0	30.0
C16:1 Palmitoleate ( <i>cis</i> -9)							3.0
C18:0 Stearate	3.0	5.0	3.0	3.0	3.0	3.0	14.0
C18:1 Oleate ( <i>cis</i> -9)	35.0	18.0	45.0	60.0	80.0	12.0	41.0
C18:2 Linoleate (all <i>cis</i> -9,12)	50.0	36.0	15.0	12.0	6.0	3.0	7.0
C18:3 Linolenate (all <i>cis</i> -9,12,15)	3.0	34.0	3.0	5.0			3.0
C20:0 Arachidate	3.0		3.0	3.0			
C20:1 Eicosenoate ( <i>cis</i> -11)				1.0			
C22:0 Behenate			3.0	3.0			
C22:1 Erucate ( <i>cis</i> -13)			20.0	5.0			
C24:0 Lignocerate			3.0	3.0			

**1083 Rapeseed Oil Reference Mixture 25 mg/ml, 1 ml**

Source: synthetic or plant  
 Appearance: liquid  
 Storage: -20°C Solvent: methylene chloride  
 Suitable standard for low erucic acid oil

**1084 RM-1 Mixture 50 mg**

Source: synthetic or plant  
 Appearance: liquid Solubility: chloroform, ethyl ether  
 Storage: -20°C  
 Suitable standard for corn, cottonseed, soybean, safflower, sesame, poppy seed, walnut kapok, and rice oils

**1085 RM-2 Mixture 50 mg**

Source: synthetic or plant  
 Appearance: liquid Solubility: chloroform, ethanol, ethyl ether  
 Storage: -20°C  
 Suitable standard for linseed, perilla, hempseed, and rubberseed oils



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**1086**      **RM-3 Mixture**      **50 mg/ml, 1 ml**

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** methylene chloride  
Suitable standards for peanut, rapeseed, and mustard seed oils

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**1087**      **RM-4 Mixture**      **50 mg**

**Source:** synthetic or plant  
**Appearance:** liquid      **Solubility:** chloroform, ethyl ether  
**Storage:** -20°C  
Suitable standard for olive, teaseed, and neatsfoot oils

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**1088**      **RM-5 Mixture**      **50 mg**

**Source:** synthetic or plant  
**Appearance:** liquid      **Solubility:** chloroform  
**Storage:** -20°C  
Suitable standard for coconut, palm kernel, babassu and ouri-ouri oils

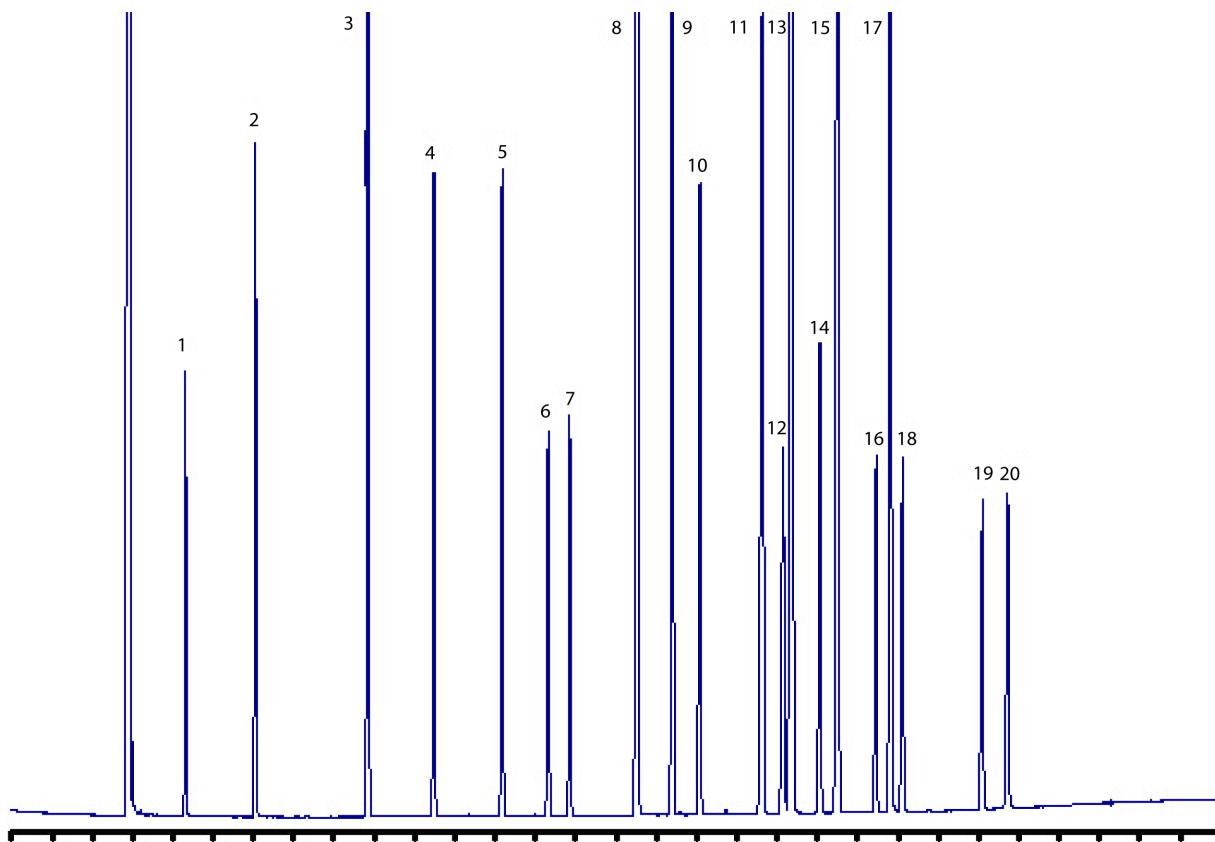
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**1089**      **RM-6 Mixture**      **50 mg**

**Source:** synthetic or plant  
**Appearance:** liquid      **Solubility:** ethyl ether, methylene chloride  
**Storage:** -20°C  
Suitable standard for lard, beef tallow, mutton tallow, and palm oil

## Custom Mixtures

Custom fatty acid methyl ester mixtures can be prepared to your specification. Minimum quantity requirements apply to these orders.



Cat# 4210 spiked with 0.4 mg/ml C18:2t ester (methyl linoelaidate) and chromatographed on a Supelco SP 2330 fused silica column.

Peak number	FAME
1	C8:0
2	C10:0
3	C12:0
4	C13:0
5	C14:0
6	C14:1
7	C15:0
8	C16:0
9	C16:1
10	C17:0
11	C18:0
12	C18:1t-9
13	C18:1c-9
14	C18:2t,t-9,12
15	C18:2c,c-9,12
16	C20:0
17	C18:3
18	C20:1
19	C22:0
20	C22:1

## GLC Standard Mixtures

GLC-10 through GLC-100 standards are **equal weight measures** of fatty acid methyl esters. They are **quantitative** standards, useful for determining relative **retention times and response factors**.

**Table II. Standards for GC Analysis**

Each methyl ester mixture is carefully prepared by weight and the composition verified by gas chromatography. The weight percentage of each component is indicated below. All double bonds are *cis*.

Mixture Number Catalog Number	GLC-10 1095	GLC-30 1097	GLC-40 1098	GLC-50 1099	GLC-60 1100	GLC-70 1101	GLC-80 1102	GLC-90 1103	GLC-100 1104
C8:0 Methyl octanoate (caprylate)		20.0				20.0			
C9:0 Methyl nonanoate (pelargonate)						20.0			
C10:0 Methyl decanoate (caprate)		20.0				20.0			
C11:0 Methyl undecanoate (hendecanoate)						20.0			
C12:0 Methyl dodecanoate (laurate)		20.0				20.0			
C13:0 Methyl tridecanoate							20.0	20.0	
C14:0 Methyl tetradecanoate (myristate)		20.0					20.0		
C15:0 Methyl pentadecanoate							20.0	20.0	
C16:0 Methyl hexadecanoate (palmitate)	20.0	20.0	25.0				20.0		
C16:1 Methyl hexadecenoate ( <i>cis</i> -9) (palmitoleate)				20.0					
C17:0 Methyl heptadecanoate (margarate)							20.0	20.0	
C18:0 Methyl octadecanoate (stearate)	20.0		25.0						20.0
C18:1 Methyl octadecenoate ( <i>cis</i> -9) (oleate)	20.0			20.0					
C18:2 Methyl octadecadienoate (all <i>cis</i> -9,12) (linoleate)	20.0								
C18:3 Methyl octadecatrienoate (all <i>cis</i> -9,12,15) (linolenate)	20.0								
C19:0 Methyl nonadecanoate								20.0	20.0
C20:0 Methyl eicosanoate (arachidate)			25.0		25.0				20.0
C20:1 Methyl eicosenoate ( <i>cis</i> -11)				20.0	25.0				
C20:2 Methyl eicosadienoate (all <i>cis</i> -11,14)					25.0				
C20:3 Methyl eicosatrienoate (all <i>cis</i> -11,14,17)					25.0				
C21:0 Methyl heneicosanoate								20.0	20.0
C22:0 Methyl docosanoate (behenate)			25.0						20.0
C22:1 Methyl docosenoate ( <i>cis</i> -13) (erucate)				20.0					
C24:1 Methyl tetracosenoate ( <i>cis</i> -15) (nervonate)				20.0					

**1095 GLC-10 Mixture 50 mg**

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C  
**Solubility:** methylene chloride

**1097 GLC-30 Mixture 50 mg**

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C  
**Solubility:** methylene chloride

**1098 GLC-40 Mixture 50 mg/ml, 1 ml**

**Source:** synthetic or plant  
**Appearance:** liquid  
**Storage:** -20°C  
**Solvent:** methylene chloride

<b>1099</b>	<b>GLC-50 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solvent: methylene chloride	<b>50 mg/ml, 1 ml</b>
<b>1100</b>	<b>GLC-60 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solvent: methylene chloride	<b>50 mg/ml, 1 ml</b>
<b>1101</b>	<b>GLC-70 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solubility: methylene chloride	<b>50 mg</b>
<b>1102</b>	<b>GLC-80 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solvent: methylene chloride	<b>50 mg/ml, 1 ml</b>
<b>1103</b>	<b>GLC-90 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solvent: methylene chloride	<b>50 mg/ml, 1 ml</b>
<b>1104</b>	<b>GLC-100 Mixture</b> Source: synthetic or plant Appearance: liquid Storage: -20°C Solvent: methylene chloride	<b>50 mg/ml, 1 ml</b>

### Water Soluble Fatty Acid Mixtures

<b>1106</b>	<b>WSFA-2 Mixture</b> Water soluble fatty acid qualitative mixture Appearance: liquid Storage: room temperature Solvent: DI water Contains: acetic, propionic, isobutyric, n-butyric, isovaleric and n-valeric acids 1mg/ml each	<b>5 ml</b>
<b>1108</b>	<b>WSFA-4 Mixture</b> Water soluble fatty acid qualitative mixture Appearance: liquid Storage: room temperature Solvent: DI water Contains: acetic, propionic, isobutyric, n-butyric, 2-methylbutyric, isovaleric and n-valeric acids 1mg/ml each	<b>5 ml</b>

## Microbiology Standard Mixtures

**1105**      **GLC-110 Mixture**      **10 mg/ml, 1 ml**  
Bacterial lipid standard, qualitative mixture

**Source:** various  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** chloroform

**Contains:**

Methyl 12-methyltridecanoate	(iso-C14:0)	Methyl 14-methylpentadecanoate	(iso-C16:0)
Methyl tetradecanoate (myristate)	(C14:0)	Methyl hexadecanoate (palmitate)	(C16:0)
Methyl 12-methyltetradecanoate	(anteiso-C15:0)	Methyl 14-methylhexadecanoate	(anteiso-C17:0)
Methyl pentadecanoate	(C15:0)		

**1114**      **Bacterial Acid Methyl Esters CP Mixture**      **10 mg/ml, 1 ml**  
Quantitative mixture

**Source:** various  
**Appearance:** liquid      **Solubility:** hexane, ethanol, methanol  
**Storage:** -20°C      **Solvent:** methyl caproate

**A quantitative standard. Mixture consists of equal amounts of the compounds listed.**

Methyl undecanoate	C11:0	Methyl hexadecanoate ( <i>cis</i> -9), (palmitoleate)	C16:1( <i>cis</i> -9)
Methyl 2-hydroxydodecanoate	2-OH C10:0	Methyl hexadecanoate, (palmitate)	C16:0
Methyl dodecanoate, (laurate)	C12:0	Methyl 15-methylhexadecanoate	iso-C17:0
Methyl tridecanoate	C13:0	Methyl <i>cis</i> -9,10-methylenehexadecanoate	C17:0 (cyclo-9,10)
Methyl 2-hydroxydodecanoate	2-OH C12:0	Methyl heptadecanoate, (margarate)	C17:0
Methyl 3-hydroxydodecanoate	3-OH C12:0	Methyl 2-hydroxyhexadecanoate	2-OH C16:0
Methyl tetradecanoate, (myristate)	C14:0	Methyl octadecadienoate (all <i>cis</i> -9,12), (linoleate)	C18:2 (all <i>cis</i> -9,12)
Methyl 13-methyltetradecanoate	iso-C15:0	Methyl octadecenoate ( <i>cis</i> -9), (oleate)	C18:1( <i>cis</i> -9)
Methyl 12-methyltetradecanoate	anteiso-C15:0	Methyl octadecenoate, ( <i>trans</i> -9), (elaidate)	C18:1 ( <i>trans</i> -9)
Methyl pentadecanoate	C15:0	Methyl octadecanoate, (stearate)	C18:0
Methyl 2-hydroxytetradecanoate	2-OH C14:0	Methyl <i>cis</i> -9,10-methyleneoctadecanoate	C19:0 (cyclo-9,10)
Methyl 3-hydroxytetradecanoate	3-OH C14:0	Methyl nonadecanoate	C19:0
Methyl 14-methylpentadecanoate	iso-C16:0	Methyl eicosanoate, (arachidate)	C20:0

**1075**      **Volatile Acid Mixture**      **100 ml**  
Qualitative mixture

**Appearance:** liquid  
**Storage:** 4-8°C      **Solvent:** DI water  
**Contains:** formic, acetic, propionic, isobutyric, n-butyric, isovaleric, n-valeric, isocaproic, n-caproic, and heptanoic acids

**1077**      **Non-Volatile Acid Mixture**      **100 ml**  
Qualitative mixture

**Appearance:** liquid  
**Storage:** 4-8°C      **Solvent:** DI water  
**Contains:** pyruvic, lactic, oxalacetic, oxalic, methylmalonic, malonic, fumaric and succinic acids.

## Biochemical Research Standard Mixtures

These mixtures are prepared by precise gravimetric technique. All mixtures contain equal amounts of listed components. A data sheet is supplied with each mixture.

**1127**      **Polar Lipid Mixture**      **25 mg/ml, 1 ml**  
TLC standards mixture

**Source:** natural, egg, ovine  
**Appearance:** liquid  
**Storage:** -20°C      **Solvent:** chloroform/methanol, 2:1  
**Contains:** cholesterol, phosphatidylethanolamine, lecithin, and *lyso*-lecithin.

<b>1128</b>	<b>Sphingolipid Mixture</b> TLC standards mixture	<b>25 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol, 2:1 <b>Contains:</b> cerebrosides, sulfatides, and sphingomyelin.	
<b>1129</b>	<b>Non-Polar Lipid Mixture A</b> TLC standards mixture	<b>25 mg/ml, 1 ml</b>
	<b>Source:</b> natural, plant, ovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform <b>Contains:</b> cholesteryl palmitate, tripalmitin, palmitic acid, and cholesterol.	
<b>1130</b>	<b>Non-Polar Lipid Mixture B</b> TLC standards mixture	<b>25 mg/ml, 1 ml</b>
	<b>Source:</b> natural, plant, ovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform <b>Contains:</b> cholesteryl oleate, methyl oleate, triolein, oleic acid, and cholesterol.	

## Glycosphingolipid Reference Mixtures for TLC and HPLC

These mixtures are qualitative standards prepared from our purified glycosphingolipids.

<b>1065</b>	<b>Mixed Gangliosides, purified (NH<sub>4</sub><sup>+</sup> salt), bovine</b> Mixed Gangliosides	<b>25 mg</b>
	<b>Source:</b> natural, bovine <b>Purity:</b> 98+% by TLC <b>Appearance:</b> solid <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water <b>Storage:</b> -20°C      Approximately 98% GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> and GT <sub>1b</sub> , remaining 2% other gangliosides See Table III (pg. 105) for typical fatty acid content of products prepared from natural sources.	
<b>1525</b>	<b>Mixed Gangliosides, purified (NH<sub>4</sub><sup>+</sup> salt), porcine</b>	<b>25 mg</b>
	<b>Source:</b> natural, porcine <b>Purity:</b> 98+% by TLC <b>Appearance:</b> solid <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water <b>Storage:</b> -20°C      Approximately 98% GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> and GT <sub>1b</sub> , remaining 2% other gangliosides See Table III (pg. 108) for typical fatty acid content of products prepared from natural sources.	
<b>1505</b>	<b>Neutral Glycosphingolipid Mixture</b> Qualitative mixture	<b>1 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine and porcine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol, 2:1 <b>Contains:</b> cerebrosides, lactosylceramides, ceramide trihexosides, globosides.	
<b>1508</b>	<b>Monosialoganglioside Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine, human <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1 <b>Contains:</b> GM <sub>3</sub> , GM <sub>2</sub> , GM <sub>1</sub>	

<b>1509</b>	<b>Disialoganglioside Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1 <b>Contains:</b> GD <sub>3</sub> , GD <sub>1a</sub> , GD <sub>1b</sub>	
<b>1510</b>	<b>Lactosylceramide and Sialosyl Derivatives Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1 <b>Contains:</b> LC, GM <sub>3</sub> , GD <sub>3</sub>	
<b>1511</b>	<b>Gangliotetraosylceramide and Sialosyl Derivatives Mixture</b>	<b>0.5 mg/ml, 1 ml</b>
	<b>Source:</b> natural, bovine <b>Appearance:</b> liquid <b>Storage:</b> -20°C <b>Solvent:</b> chloroform/methanol/DI water, 2:1:0.1 <b>Contains:</b> asialo-GM <sub>1</sub> , GM <sub>1</sub> , GD <sub>1a</sub> , GD <sub>1b</sub> , GT <sub>1b</sub>	

## Labeled Standards

### Stable Isotope Labeled Standards

<b>2079</b>	<b>D-erythro-Sphingosine, D9</b>	<b>1 mg</b>
	15,15,16,16,17,17,18,18,18-D9-2-Amino-octadec-4-ene-1,3-diol  $C_{18}H_{28}D_9NO_2$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Mol. Wt.:</b> 309 <b>Purity:</b> 98+% by TLC, GC, HPLC <b>Solubility:</b> chloroform, ethanol, methanol, DMSO <b>Identity:</b> confirmed by MS	
<b>2201</b>	<b>N-omega-CD<sub>3</sub>-Octadecanoyl-D-erythro-sphingosine</b>	<b>1 mg</b>
	N-C18:0-CD <sub>3</sub> -D-erythro-Ceramide; N-Stearoyl-CD <sub>3</sub> -D-erythro-sphingosine  $C_{36}H_{68}NO_3D_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Mol. Wt.:</b> 569 <b>Purity:</b> 98+% by TLC, GC <b>Solubility:</b> chloroform, hot ethanol, DMF <b>Identity:</b> confirmed by MS	
<b>2208</b> <b>*NEW*</b>	<b>N-(32-Linoleoyloxy-dotriacontanoyl)-sphingosine-D9</b>	<b>1 mg</b>
	EOS Ceramide, deuterated; O-acylceramide, deuterated  $C_{68}H_{120}D_9NO_5$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Mol. Wt.:</b> 1050 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, methanol, DMF <b>Identity:</b> confirmed by MS	
<b>2202</b>	<b>N-omega-CD<sub>3</sub>-Octadecanoyl-D-erythro-dihydrosphingosine</b>	<b>1 mg</b>
	N-C18:0-CD <sub>3</sub> -D-erythro-Dihydroceramide; N-Stearoyl-CD <sub>3</sub> -D-erythro-sphinganine  $C_{36}H_{70}D_3NO_3$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Mol. Wt.:</b> 571 <b>Purity:</b> 98% by TLC, GC, HPLC <b>Solubility:</b> hot ethanol, DMF, DMSO, chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS	

<b>2210</b> <b>*NEW*</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-phytosphingosine</b> N-C18:0-CD <sub>3</sub> -Phytoceramide; N-Stearoyl-CD <sub>3</sub> -phytosphingosine	<b>1 mg</b>
	$C_{36}H_{70}D_3NO_4$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 587 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform, DMF, DMSO
		<b>Identity:</b> confirmed by MS
<b>2200</b>	<b>N-1-<sup>13</sup>C-Hexadecanoyl-D-<i>erythro</i>-sphingosylphosphorylcholine</b> D- <i>erythro</i> -Sphingomyelin with 1- <sup>13</sup> C-palmitic acid; N-1- <sup>13</sup> C-Palmitoyl-sphingosylphosphorylcholine	<b>1 mg</b>
	$C_{38}^{13}CH_{79}N_2O_6P$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 703 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, ethanol, methanol
<b>2206</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-D-<i>erythro</i>-sphingosine-1-phosphate</b> C18:0-CD <sub>3</sub> -Ceramide-1-phosphate; N-Stearoyl-CD <sub>3</sub> -C1P	<b>1 mg</b>
	$C_{36}H_{69}D_3NO_6P$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 649 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/acetic acid, 60:15:25 chloroform/methanol/7.5M ammonium hydroxide 80:20:4
<b>1914</b>	<b>N-Octadecanoyl-D<sub>35</sub>-psychosine, (perdeuterated, C18:0 fatty acid)</b> N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated; N-Stearoyl-D <sub>35</sub> -psychosine, perdeuterated	<b>5 mg</b>
	$C_{42}H_{46}D_{35}NO_8$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 763 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform, hot ethanol, chloroform/methanol, 2:1 Deuterium labeled stearoyl sidechain
<b>2209</b> <b>*NEW*</b>	<b><sup>13</sup>C<sub>6</sub>-Glucosylsphingosine</b> 1-( <i>beta</i> -D-Glucosyl-1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )-sphingosine; <sup>13</sup> C <sub>6</sub> - <i>lyso</i> -Glucocerebroside	<b>1 mg</b>
	$C_{18}^{13}C_6H_{47}NO_7$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 468 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> ethanol, methanol, chloroform/methanol, 2:1
<b>1533</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Hexadecanoyl-glucopsychosine</b> N-C16:0-CD <sub>3</sub> -Glucopsychosine; N-C16:0-CD <sub>3</sub> -Glucocerebroside; N-Palmitoyl-CD <sub>3</sub> -glucopsychosine	<b>1 mg</b>
	$C_{40}H_{74}D_3NO_8$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 703 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1
<b>1536</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-sulfatide</b> N-C18:0-CD <sub>3</sub> -Sulfatide; N-Stearoyl-CD <sub>3</sub> -sulfatide	<b>1 mg</b>
	$C_{42}H_{78}D_3NO_{11}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 811 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1



<b>1534</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Hexadecanoyl-lactosylceramide</b> N-C16:0-CD <sub>3</sub> -Lactosylceramide; N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	<b>1 mg</b>
	<b>C<sub>46</sub>H<sub>84</sub>D<sub>3</sub>NO<sub>13</sub></b> <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 865 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 5:1:0.1
		<b>Identity:</b> confirmed by MS
<b>1537</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl-ceramide trihexoside</b> N-C18:0-CD <sub>3</sub> -CTH; N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub> ; N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide; N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	<b>500 µg</b>
	<b>C<sub>54</sub>H<sub>98</sub>D<sub>3</sub>NO<sub>18</sub></b> <b>Source:</b> semisynthetic, porcine RBC <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1055 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> DMSO, chloroform/methanol, 2:1
		<b>Identity:</b> confirmed by MS
<b>2050</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>1</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>1</sub>	<b>500 µg</b>
	<b>C<sub>73</sub>H<sub>128</sub>N<sub>3</sub>O<sub>31</sub>D<sub>3</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1550 + NH <sub>3</sub> <b>Purity:</b> 98% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS
<b>2051</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>2</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>2</sub>	<b>250 µg</b>
	<b>C<sub>67</sub>H<sub>118</sub>D<sub>3</sub>N<sub>3</sub>O<sub>26</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, human Tay-Sachs <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1388 + NH <sub>3</sub> <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS
<b>2052</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl monosialoganglioside GM<sub>3</sub> (NH<sub>4</sub><sup>+</sup> salt)</b> N-CD <sub>3</sub> -Stearoyl GM <sub>3</sub>	<b>250 µg</b>
	<b>C<sub>59</sub>H<sub>105</sub>D<sub>3</sub>N<sub>2</sub>O<sub>21</sub>•NH<sub>3</sub></b> <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1185 + NH <sub>3</sub> <b>Purity:</b> 98% by TLC <b>Solubility:</b> chloroform/methanol/DI water, 2:1:0.1; forms micellar solution in water
		<b>Identity:</b> confirmed by MS
<b>2054</b> <b>*NEW*</b>	<b>N-<i>omega</i>-CD<sub>3</sub>-Octadecanoyl disialoganglioside GD<sub>3</sub></b> N-CD <sub>3</sub> -Stearoyl GD <sub>3</sub>	<b>500 µg</b>
	<b>C<sub>70</sub>H<sub>122</sub>D<sub>3</sub>N<sub>3</sub>O<sub>29</sub></b> <b>Source:</b> semisynthetic bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1476 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1, water
		<b>Identity:</b> confirmed by MS

## Fluorescent Standards

Absorption: 460 nm Emission: 535 nm

**1841**      **N-Hexanoyl-NBD-D-erythro-sphingosine**      **100 µg**  
**1841-001**      N-C6:0-NBD-Ceramide; N-C6:0-NBD-D-erythro-Sphingosine      **1 mg**

$C_{30}H_{49}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 576

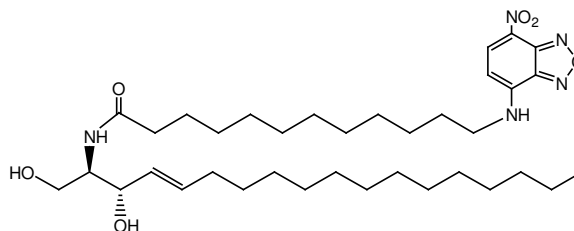
Purity: 98+% by TLC

Solubility: chloroform, ethanol, methanol

Melting Point (°C): 85-88

CAS#: 86701-10-2

Identity: confirmed by MS



**1618**      **N-Dodecanoyl-NBD-D-erythro-sphingosine**      **100 µg**  
**1618-001**      N-C12:0-NBD-Ceramide; N-C12:0-NBD-D-erythro-Sphingosine      **1 mg**

$C_{36}H_{61}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 660

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 202850-01-9

Identity: confirmed by MS

**1857**      **N-Hexanoyl-NBD-L-threo-sphingosine**      **100 µg**  
**1857-001**      N-C6:0-NBD-Ceramide; N-C6:0-NBD-L-threo-Sphingosine      **1 mg**

$C_{30}H_{49}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 576

Purity: 98+% by TLC

Solubility: chloroform, ethanol, methanol

**1620**      **N-Dodecanoyl-NBD-L-threo-sphingosine**      **100 µg**  
N-C12:0-NBD-Ceramide; N-C12:0-NBD-L-threo-Sphingosine, fluorescent

$C_{36}H_{61}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 660

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 474943-08-3

Identity: confirmed by MS

**1624**      **N-Hexanoyl-NBD-L-threo-dihydrosphingosine**      **100 µg**  
N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-L-threo-Dihydrosphingosine

$C_{30}H_{51}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 578

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

**1623**      **N-Dodecanoyl-NBD-L-threo-dihydrosphingosine**      **100 µg**  
N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-L-threo-Dihydrosphingosine

$C_{36}H_{63}N_5O_6$

Source: synthetic

Appearance: solid

Storage: -20°C

Mol. Wt.: 662

Purity: 98+% by TLC

Solubility: methanol, chloroform/methanol, 2:1

CAS#: 474943-07-2

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**1626 N-Hexanoyl-NBD-D-erythro-dihydrosphingosine** 100 µg  
N-C6:0-NBD-Dihydroceramide; N-C6:0-NBD-D-erythro-Dihydrosphingosine

**C<sub>30</sub>H<sub>51</sub>N<sub>5</sub>O<sub>6</sub>** Mol. Wt.: 578 CAS#: 114301-95-0  
**Source:** synthetic Purity: 98+% by TLC Identity: confirmed by MS  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1625 N-Dodecanoyl-NBD-D-erythro-dihydrosphingosine** 100 µg  
N-C12:0-NBD-Dihydroceramide; N-C12:0-NBD-D-erythro-Dihydrosphingosine

**C<sub>36</sub>H<sub>63</sub>N<sub>5</sub>O<sub>6</sub>** Mol. Wt.: 662  
**Source:** synthetic Purity: 98+% by TLC  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1628 N-Hexanoyl-NBD-phytosphingosine** 100 µg  
N-C6:0-NBD-Phytoceramide; N-C6:0-NBD-Phytosphingosine

**C<sub>30</sub>H<sub>51</sub>N<sub>5</sub>O<sub>7</sub>** Mol. Wt.: 594 CAS#: 477239-93-3  
**Source:** semisynthetic, bacteria Purity: 98+% by TLC  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1627 N-Dodecanoyl-NBD-phytosphingosine** 100 µg  
N-C12:0-NBD-Phytoceramide; N-C12:0-NBD-Phytosphingosine

**C<sub>36</sub>H<sub>63</sub>N<sub>5</sub>O<sub>7</sub>** Mol. Wt.: 678 CAS#: 388566-94-7  
**Source:** semisynthetic, bacteria Purity: 98+% by TLC  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 2:1  
**Storage:** -20°C

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**1912 N-Hexanoyl-NBD-sphingosylphosphorylcholine** 100 µg  
**1912-001** N-C6:0-NBD-Sphingomyelin; N-C6:0-NBD-Sphingosylphosphorylcholine 1 mg

**C<sub>35</sub>H<sub>61</sub>N<sub>6</sub>O<sub>9</sub>P** Mol. Wt.: 740 CAS#: 94885-04-8  
**Source:** semisynthetic, bovine buttermilk Purity: 98+% by TLC  
**Appearance:** solid Solubility: chloroform, ethanol, methanol  
**Storage:** -20°C Mixture of D-erythro and L-threo isomers

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**1619 N-Dodecanoyl-NBD-sphingosylphosphorylcholine** 100 µg  
**1619-001** N-C12:0-NBD-Sphingomyelin; N-C12:0-NBD-Sphingosylphosphorylcholine 1 mg

**C<sub>41</sub>H<sub>73</sub>N<sub>6</sub>O<sub>9</sub>P** Mol. Wt.: 825 CAS#: 254117-01-6  
**Source:** semisynthetic, bovine buttermilk Purity: 98+% by TLC Identity: confirmed by MS  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 2:1  
**Storage:** -20°C Mixture of D-erythro and L-threo isomers

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**1621 N-Hexanoyl-NBD-galactosylceramide** 100 µg  
N-C6:0-NBD-beta-D-Galactosylsphingosine; N-C6:0-NBD-Cerebroside;  
N-C6:0-NBD-Galactosylceramide, fluorescent; N-(NBD-Aminocaproyl)-D-galactosylsphingosine

**C<sub>36</sub>H<sub>59</sub>N<sub>5</sub>O<sub>11</sub>** Mol. Wt.: 738 CAS#: 170212-26-7  
**Source:** semisynthetic, bovine Purity: 98+% by TLC  
**Appearance:** solid Solubility: methanol, chloroform/methanol, 5:1  
**Storage:** -20°C

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<b>1633</b> <b>1633-001</b>	<b>N-Dodecanoyl-NBD-galactosylceramide</b> N-C12:0-NBD- <i>beta</i> -D-Galactosylsphingosine; N-C12:0-NBD-Cerebroside	<b>100 µg</b> <b>1 mg</b>
	$C_{42}H_{71}N_5O_{11}$ <b>Source:</b> semisynthetic, bovine spinal cord <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 822 <b>Purity:</b> 98% by TLC <b>Solubility:</b> chloroform, DMSO, chloroform/methanol, 2:1
		<b>CAS#:</b> 474942-98-8 <b>Identity:</b> confirmed by MS
<b>2204</b>	<b>Lissamine-rhodamine B-dodecanoyl-galactosylceramide</b> Sulforhodamine B-C12:0 cerebroside	<b>500 µg</b>
	$C_{63}H_{99}N_4O_{14}S_2$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C <b>Absorption:</b> 540 nm	<b>Mol. Wt.:</b> 1201 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 8:2, DMSO, DMF <b>Emission:</b> 565 nm
		<b>Identity:</b> confirmed by MS
<b>1622</b> <b>1622-001</b>	<b>N-Hexanoyl-NBD-glucosylceramide</b> N-C6:0-NBD- <i>beta</i> -D-Glucosylsphingosine; N-C6:0-NBD-Glucosylceramide, fluorescent	<b>100 µg</b> <b>1 mg</b>
	$C_{36}H_{59}N_5O_{11}$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 738 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> methanol, chloroform/methanol, 5:1
		<b>CAS#:</b> 94885-03-7 <b>Identity:</b> confirmed by MS
<b>1632</b> <b>1632-001</b>	<b>N-Dodecanoyl-NBD-sulfatide</b> N-C12:0-NBD-Sulfatide; N-Dodecanoyl-NBD- <i>lyso</i> -sulfatide; N-Dodecanoyl-NBD-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	<b>100 µg</b> <b>1 mg</b>
	$C_{42}H_{71}N_5O_{14}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 901 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1
<b>1629</b> <b>1629-001</b>	<b>N-Hexanoyl-NBD-lactosylceramide</b> N-Hexanoyl-NBD- <i>beta</i> -D-lactosylsphingosine; N-C6:0-NBD- <i>beta</i> -D-Lactosylsphingosine; N-C6:0-NBD-Lactosylceramide	<b>50 µg</b> <b>1 mg</b>
	$C_{42}H_{69}N_5O_{16}$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 900 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1
		<b>CAS#:</b> 474943-04-9 <b>Identity:</b> confirmed by MS
<b>1630</b> <b>1630-001</b>	<b>N-Dodecanoyl-NBD-lactosylceramide</b> N-Dodecanoyl-NBD- <i>beta</i> -D-lactosylsphingosine; N-C12:0-NBD- <i>beta</i> -D-Lactosylsphingosine; N-C12:0-NBD-Lactosylceramide	<b>50 µg</b> <b>1 mg</b>
	$C_{48}H_{81}N_5O_{16}$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 984 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 2:1
		<b>CAS#:</b> 474943-06-1
<b>1631</b> <b>1631-001</b>	<b>N-Dodecanoyl-NBD-ceramide trihexoside</b> N-C12:0-NBD-CTH; N-C12:0-NBD-Globotriaosylceramide	<b>100 µg</b> <b>1 mg</b>
	$C_{54}H_{91}N_5O_{21}$ <b>Source:</b> semisynthetic, porcine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 1145 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> DMSO; hot methanol, chloroform/methanol, 2:1
		<b>Identity:</b> confirmed by MS

## Biotin Labeled Standards

<b>2081</b>	<b>N-Hexanoyl-biotin-D-erythro-sphingosine</b> N-C6:0-biotin-D-erythro-Ceramide	<b>5 mg</b>
	$C_{34}H_{62}N_4O_5S$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 639 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1, DMF <b>Identity:</b> confirmed by MS
<b>2212</b> <b>*NEW*</b>	<b>N-Hexanoyl-biotin-D-erythro-dihydrosphingosine</b> N-C6:0-Biotin-sphinganine; N-C6:0-Biotin-dihydroceramide	<b>5 mg</b>
	$C_{34}H_{64}N_4O_5S$ <b>Source:</b> synthetic <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 641 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 2:1 <b>Identity:</b> confirmed by MS
<b>2211</b> <b>*NEW*</b>	<b>N-Hexanoyl-biotin-phytosphingosine</b> N-C6:0-biotin-Phytoceramide	<b>5 mg</b>
	$C_{34}H_{64}N_4O_6S$ <b>Source:</b> semisynthetic, yeast ( <i>Pichia ciferri</i> ) <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 657 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol, 2:1; DMF <b>Identity:</b> confirmed by MS
<b>2203</b>	<b>N-Hexanoyl-biotin-galactosylceramide</b> N-C6:0-biotin- <i>beta</i> -D-Galactosylsphingosine; N-C6:0-biotin-Cerebroside	<b>5 mg</b>
	$C_{40}H_{72}N_4O_{10}S$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 801 <b>Purity:</b> 98+% by TLC, HPLC <b>Solubility:</b> chloroform/methanol 2:1, methanol, DMF <b>Identity:</b> confirmed by MS
<b>2085</b>	<b>N-Hexanoyl-biotin-glucosylceramide</b> N-C6:0-biotin- <i>beta</i> -D-Glucosylsphingosine; N-C6:0-biotin-Glucosylceramide	<b>5 mg</b>
	$C_{40}H_{72}N_4O_{10}S$ <b>Source:</b> semisynthetic, plant <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 801 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol 2:1, methanol, DMF <b>Identity:</b> confirmed by MS
<b>2207</b>	<b>N-Hexanoyl-biotin-sulfatide</b> N-C6:0-biotin-Sulfatide; N-Hexanoyl-biotin-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	<b>1 mg</b>
	$C_{40}H_{72}N_4O_{13}S_2$ <b>Source:</b> semisynthetic, bovine <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 881 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol/water 2:1:0.1; methanol/water 9:1; DMF <b>Identity:</b> confirmed by MS
<b>2205</b>	<b>N-Hexanoyl-biotin-lactosylceramide</b> N-C6:0-biotin- <i>beta</i> -D-Lactosylceramide	<b>1 mg</b>
	$C_{46}H_{82}N_4O_{15}S$ <b>Source:</b> semisynthetic, bovine buttermilk <b>Appearance:</b> solid <b>Storage:</b> -20°C	<b>Mol. Wt.:</b> 963 <b>Purity:</b> 98+% by TLC <b>Solubility:</b> chloroform/methanol, 9:1, DMSO, DMF <b>Identity:</b> confirmed by MS



**Table III. Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC**  
(actual composition may vary according to dietary history and growth condition of the source)

	Lecithin, egg	Phosphatidyl ethanolamine, egg	lyso-Lecithin, egg	Phosphatidylserine, bovine	Phosphatidylinositol, plant, wheat germ	Sulfatides, bovine	Cerebrosides, bovine	Sphingomyelin, bovine	Phosphatidic acid, egg	Ceramides (mixture)
Catalog Number	1044	1045	1046	1047	1048	1049	1050	1051	1053	1056
Fatty Acids										
C14:0										
C16:0	31	17	72	1	42	trace	trace	4	39	trace
C16:1										
C18:0	16	29	24	42		5	4	40	12	4
C18:1	31	17	3	27	6	trace			34	
C18:2	16	11			47				15	
C18:3					5					
C20:0				1		1	1	3		1
C20:1				4						
C20:4		12		4						
C21:0										
C22:0				1		7	4	13		4
C22:1				1		trace				
C22:6				7						
C23:0							2	2		2
C24:0						18	10	9		10
C24:1						29	15	22		15
C25:0						2	3			9
C25:1						2	1			1
C26:0						1	2			2
C26:1						3	1			1
C27:0						1	2			2
C27:1							2			2
C14:0 2-OH										
C16:0 2-OH										
C18:0 2-OH						5	15			15
C20:0 2-OH						trace	1			1
C22:0 2-OH						3	6			6
C23:0 2-OH							5			5
C24:0 2-OH						10	17			17
C24:1 2-OH						6	6			
C25:0 2-OH						2	3			3
C25:1 2-OH										
C26:0 2-OH										
C26:1 2-OH										
C16 cis 9,10 methylene										
C18 cis 9,10 methylene										
Others	6	14	1	12	0	5	0	7	0	0
Total	100	100	100	100	100	100	100	100	100	100

**Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)**  
(actual composition may vary according to dietary history and growth condition of the source)

	Glucocerebrosides, Gaucher's spleen	Monogalactosyldigly ceride (hydrogenated), plant	Digalactosyl Diglyceride (hydrogenated), plant	Monosialo ganglioside GM <sub>1</sub>	Disialoganglioside GD <sub>1a</sub>	Trisialoganglioside GT <sub>1b</sub>	Gangliotetraosyl ceramide	Mixed Gangliosides, purified, bovine	Cerebroside; Kerasin (top spot)	Ceramide trihexosides
Catalog Number	1057	1058	1059	1061	1062	1063	1064	1065	1066	1067
Fatty Acids										
C14:0					1		trace	trace		
C16:0	26	23	9	2	1	1	1	1	trace	3
C16:1										
C18:0	9	77	91	90	89	87	86	86	5	2
C18:1						1	3	3		2
C18:2										
C18:3										
C20:0	5			3	2	4	4	4	1	2
C20:1										
C20:4										
C21:0										
C22:0	26			1	1	1	2	2	9	17
C22:1									trace	
C22:6										
C23:0	5					1	1	1	5	1
C24:0	22					1	1	1	25	29
C24:1	6			1		1	2	2	43	5
C25:0									3	
C25:1									3	
C26:0									2	
C26:1									4	
C27:0										
C27:1										
C14:0 2-OH										
C16:0 2-OH										
C18:0 2-OH										
C20:0 2-OH										
C22:0 2-OH										3
C23:0 2-OH										1
C24:0 2-OH										19
C24:1 2-OH										10
C25:0 2-OH										
C25:1 2-OH										
C26:0 2-OH										
C26:1 2-OH										
C16 cis 9,10 methylene										
C18 cis 9,10 methylene										
Others	1	0	0	3	6	3	0	0	0	6
Total	100	100	100	100	100	100	100	100	100	100



**Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)**  
(actual composition may vary according to dietary history and growth condition of the source)

	Globosides, porcine	Lecithin, bovine	Esterified Steryl Glucosides	Cerebroside; Phrenosin (bottom spot)	Phosphatidyl ethanolamine, plant	Ceramides (non-hydroxy)	Ceramides (hydroxy)	Sphingomyelin, porcine RBC	Sphingomyelin, buttermilk
Catalog Number	1068	1070	1118	1138	1301	1322	1323	1328	1329
Fatty Acids									
C14:0		trace							1
C16:0	2	35	34		22			25	14
C16:1		1							
C18:0	2	14	8		3	11		7	3
C18:1		33	8		7				
C18:2			36		60				
C18:3			4		8				
C20:0	2		1			2		3	1
C20:1									
C20:4									
C21:0									
C22:0	20		4			10		9	26
C22:1									
C22:6									
C23:0	2		2			6		1	30
C24:0	33		2			24		22	21
C24:1	5					31		22	3
C25:0						3			
C25:1						3			
C26:0	2					2			
C26:1						3			
C27:0									
C27:1									
C14:0 2-OH									
C16:0 2-OH									
C18:0 2-OH				36			24		
C20:0 2-OH				1			1		
C22:0 2-OH	4			8			8		
C23:0 2-OH				6			6		
C24:0 2-OH	19			25			35		
C24:1 2-OH	9			9			17		
C25:0 2-OH				4			4		
C25:1 2-OH				2					
C26:0 2-OH				2					
C26:1 2-OH				2			2		
C16 cis 9,10 methylene									
C18 cis 9,10 methylene									
Others	0	17	1	5	0	5	3	11	1
Total	100	100	100	100	100	100	100	100	100

**Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)**  
(actual composition may vary according to dietary history and growth condition of the source)

	Sphingomyelin, egg	Phosphatidylinositol, plant, soy	Lactosylceramides, porcine RBC	Disialoganglioside GD <sub>1b</sub> , bovine	Monosialoganglioside GM <sub>2</sub>	Monosialoganglioside GM <sub>3</sub>	Disialoganglioside GD <sub>3</sub> , buttermilk	Lactosylceramides buttermilk	Ceramide trihexosides (top spot)
<b>Catalog Number</b>	<b>1332</b>	<b>1336</b>	<b>1500</b>	<b>1501</b>	<b>1502</b>	<b>1503</b>	<b>1504</b>	<b>1507</b>	<b>1513</b>
Fatty Acids									
C14:0	trace			trace					
C16:0	72	32	14	1	2	6	8	12	1
C16:1									
C18:0	8	7	6	86	82	1	1	1	1
C18:1	3	7	4	3					
C18:2		47							
C18:3		6							
C20:0	2		1	4	7	1	1	1	2
C20:1									
C20:4									
C21:0						1	2		
C22:0	5		9	2	4	23	24	25	22
C22:1									
C22:6									
C23:0	1		1	1	trace	36	35	36	2
C24:0	2		15	1	1	22	21	21	58
C24:1	4		5	2	2	3	3		7
C25:0								1	1
C25:1									
C26:0									5
C26:1									
C27:0									
C27:1									
C14:0 2-OH									
C16:0 2-OH									
C18:0 2-OH			trace						
C20:0 2-OH									
C22:0 2-OH			8						
C23:0 2-OH									
C24:0 2-OH			24						
C24:1 2-OH			13						
C25:0 2-OH									
C25:1 2-OH									
C26:0 2-OH									
C26:1 2-OH									
C16 cis 9,10 methylene									
C18 cis 9,10 methylene									
Others	3	1	0	0	2	7	5	3	1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Typical Fatty Acid Composition of Natural Lipids Made by Matreya LLC (continued)**  
(actual composition may vary according to dietary history and growth condition of the source)

	Ceramide trihexosides (bottom spot)	Tetraialoganglioside GQ <sub>1b</sub>	Glucocerebrosides, buttermilk	Glucocerebrosides, plant	Mixed Gangliosides, purified, porcine	Fucosylated monosialoganglioside GM <sub>1</sub>	Disialoganglioside GD <sub>2</sub>	Monosialoganglioside GM <sub>4</sub>
Catalog Number	1514	1516	1521	1522	1525	1526	1527	1535
Fatty Acids								
C14:0								
C16:0	3	5	7		1	8	1	4
C16:1		1						
C18:0		80	2		87	2	89	2
C18:1		2						
C18:2		3						
C18:3								
C20:0		4	1		4	13	7	trace
C20:1								trace
C20:4								
C21:0			1					
C22:0	2	2	27		1	43	1	3
C22:1								4
C22:6								
C23:0			36		1	3	1	4
C24:0	3		23		1	26		6
C24:1					2	5	1	4
C25:0			1					
C25:1								
C26:0								
C26:1								
C27:0								
C27:1								
C14:0 2-OH				trace				
C16:0 2-OH				79				
C18:0 2-OH	1			trace				1
C20:0 2-OH	1							3
C22:0 2-OH	11			8				25
C23:0 2-OH	1			1				17
C24:0 2-OH	52			9				18
C24:1 2-OH	25							7
C25:0 2-OH								
C25:1 2-OH								
C26:0 2-OH								
C26:1 2-OH								
C16 cis 9,10 methylene								
C18 cis 9,10 methylene								
Others	1	3	2	3	3			2
Total	100	100	100	100	100	100	100	100

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**Note:** We are pleased and honored to have the above list of scientists in the field of Lipid Research. In case your name and contribution is not listed above, we apologize. If you would like your publication listed in our next catalog, please send your name and publication to the attention of Marketing Department.

## Cross Reference for Product Numbers and Catalog Pages

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1030	57	1101	92, 93	1200	54
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1037	58	1113	85	1209	59
1038	58	1114	94	1210	60
1040	59	1115	84	1233	63, 70
1041	66	1116	84	1234	63, 70
1042	64	1117	85	1235	80
1044	47, 104	1118	85, 106	1236	80
1045	49, 104	1119	84	1238	80
1046	48, 104	1120	85	1240	63, 69
1047	48, 104	1121	85	1241	57
1048	48, 104	1122	85	1242	58
1049	28, 104	1123	84	1243	60
1050	23, 104	1124	87	1244	65
1051	18, 104	1125	87	1245	68
1051-1	18	1127	94	1248	69
1053	48, 104	1128	95	1249	69
1056	14, 104	1129	95	1251	58
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1057-25	26	1131	67, 88	1254	69
1058	53, 105	1136	65	1255	68
1059	54, 105	1138	23, 106	1256	69
1061	38, 105	1147	60, 66	1257	69
1061-50	38	1148	60, 66	1261	55
1062	40, 105	1149	61, 66	1262	61, 67
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1064	38, 105	1151	62, 67	1264	65
1065	41, 95, 105	1152	62, 67	1265	65
1066	23, 105	1153	62	1266	61
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1067-10	33	1155	66	1269	64

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1273	59	1511	42, 96	1633	25, 36, 101
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1277	63	1514	33, 108	1657	78
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1303	53	1518	38	1703	71
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1305	24	1521	26, 108	1705	71
1306	27	1521-50	26	1706	71
1310	27	1522	26, 108	1707	71
1318	20	1522-100	26	1708	71
1319	21	1523	34	1709	71
1320	5, 47	1524	34	1710	72
1321	21	1525	41, 95, 108	1711	72
1321-05	21	1526	39, 108	1712	72
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(+)- <i>delta</i> -Tocopherol	82	2-Hydroxy C20:0 fatty acid	71
[R-(E,E)]-3,4-Dihydro-2,5,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83	2-Hydroxy C20:0 methyl ester	72
[R-(E,E)]-3,4-Dihydro-2,7,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83	2-Hydroxy C22:0 fatty acid	72
[R-(E,E)]-3,4-Dihydro-2,8-dimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83	2-Hydroxy C22:0 methyl ester	72
1-( <i>beta</i> -D-Glucosyl-1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )-sphingosine	26, 35, 97	2-Hydroxy C23:0 fatty acid	72
1,2-Diheptadecanoyl-sn-glycero-3-phosphorylcholine	50	2-Hydroxy C23:0 methyl ester	72
1,2-Dilauroyl-sn-glycero-3-phosphorylcholine	50	2-Hydroxy C24:0 fatty acid	72
1,2-Dilauroyl-sn-glycero-3-phosphorylethanolamine	52	2-Hydroxy C24:0 methyl ester	72
1,2-Dilauroyl-sn-glycero-3-phosphorylglycerol	51	2-Hydroxy Methyl Ester Mixture	72, 88
1,2-Dimyristoyl-sn-glycero-3-phosphatidic acid	49	2-Hydroxydecanoic acid	70
1,2-Dimyristoyl-sn-glycero-3-phosphorylcholine	50	2-Hydroxydocosanoic acid	72
1,2-Dimyristoyl-sn-glycero-3-phosphorylethanolamine	52	2-Hydroxydodecanoic acid	70
1,2-Dimyristoyl-sn-glycero-3-phosphorylglycerol	51	2-Hydroxyeicosanoic acid	71
1,2-Dipalmitoyl-sn-glycero-3-phosphatidic acid	50	2-Hydroxyhexadecanoic acid	71
1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine	50	2-Hydroxyignoceric acid	72
1,2-Dipalmitoyl-sn-glycero-3-phosphorylethanolamine	52	2-Hydroxyoctadecanoic acid	71
1,2-Dipalmitoyl-sn-glycero-3-phosphorylglycerol	51	2-Hydroxytetracosanoic acid	72
1,2-Distearoyl-phosphatidylethanolamine-methyl-polyethyleneglycol conjugate-2000	53	2-Hydroxytetradecanoic acid	71
1,2-Distearoyl-sn-glycero-3-phosphatidic acid	50	2-Hydroxytricosanoic acid	72
1,2-Distearoyl-sn-glycero-3-phosphorylcholine	51	2-Octyl-1-cyclopropene-1-octanoic acid	80
1,2-Distearoyl-sn-glycero-3-phosphorylethanolamine	52	3,4-Dihydro-2,5,7,8-tetramethyl-2R-[(3E,7E)-4,8,12-trimethyl-3,7,11-tridecatrienyl]-2H-1-benzopyran-6-ol	82
1,2-Distearoyl-sn-glycero-3-phosphorylglycerol	52	3,7,11,15-Tetramethylhexadecanoic acid	80
10(E),12(Z)-Octadecadienoic acid	69	3-Hydroxy C10:0 fatty acid	74
10-HDA	76	3-Hydroxy C10:0 methyl ester	74
10-Hydroxy-2-(E)-decanoic acid	76	3-Hydroxy C11:0 fatty acid	74
10-Methyl C16:0 methyl ester	80	3-Hydroxy C11:0 methyl ester	74
10- <i>trans</i> , 12- <i>cis</i> CLA	69	3-Hydroxy C12:0 fatty acid	74
11-Hexadecenoic acid (92% <i>cis</i> , 8% <i>trans</i> )	60	3-Hydroxy C12:0 methyl ester	74
12-Methyltetradecanoic acid	79	3-Hydroxy C13:0 fatty acid	74
<sup>13</sup> C <sub>6</sub> -Glucosylsphingosine	26, 35, 97	3-Hydroxy C13:0 methyl ester	74
<sup>13</sup> C <sub>6</sub> - <i>lyso</i> -Glucocerebroside	26, 35, 97	3-Hydroxy C14:0 fatty acid	75
13-Methyltetradecanoic acid	78	3-Hydroxy C14:0 methyl ester	75
14-Methylhexadecanoic acid	79	3-Hydroxy C16:0 fatty acid	75
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15-Hydroxypentadecanoic acid	76	3-Hydroxy C17:0 fatty acid	75
15-Methylhexadecanoic acid	78	3-Hydroxy C17:0 methyl ester	75
17-Hydroxyheptadecanoic acid	76	3-Hydroxy C18:0 fatty acid	75
1- <i>beta</i> -D-Glucosylsphingadienine, plant	27	3-Hydroxy C18:0 methyl ester	75
1- <i>beta</i> -D-Galactosylsphingosine (free amine form)	24	3-Hydroxy C6:0 fatty acid	73
1- <i>beta</i> -D-Galactosylsphingosine, synthetic	24	3-Hydroxy C6:0 methyl ester	73
1- <i>beta</i> -D-Glucosylsphingosine, buttermilk	27	3-Hydroxy C8:0 fatty acid	73
1- <i>beta</i> -D-Glucosylsphingosine, synthetic	26	3-Hydroxy C8:0 methyl ester	73
1- <i>beta</i> -Lactosyl-sphing-4-enine, synthetic	31	3-Hydroxy C9:0 fatty acid	73
1-Hydroxy-2-amino-3-keto-dodecane • HCl	5	3-Hydroxy C9:0 methyl ester	73
1-Hydroxy-2-amino-3-keto-hexane • HCl	5	3-Hydroxydecanoic acid	74
1-Hydroxy-2-amino-3-keto-octane • HCl	5	3-Hydroxydodecanoic acid	74
1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylcholine	51	3-Hydroxyheptadecanoic acid	75
1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylglycerol	52	3-Hydroxyhexadecanoic acid	75
1-Palmitoyl-sn-glycero-3-phosphorylcholine	51	3-Hydroxyhexanoic acid	73
2,6-Dimethyl-C7:0 fatty acid	79	3-Hydroxynonanoic acid	73
20-Hydroxyeicosanoic acid	76	3-Hydroxyoctadecanoic acid	75
22-Hydroxydocosanoic acid	77	3-Hydroxyoctanoic acid	73
2-Acetyl-4-(1R, 2S, 3R, 4-tetrahydroxybutyl)-imidazole	46	3-Hydroxytetradecanoic acid	75
2-Fluoropalmitic acid	46	3-Hydroxytridecanoic acid	74
2-Hydroxy C10:0 fatty acid	70	3-Hydroxyundecanoic acid	74
2-Hydroxy C10:0 methyl ester	70	3-keto-C12-Dihydrosphingosine•HCl	5
2-Hydroxy C12:0 fatty acid	70	3-keto-C6-Dihydrosphingosine•HCl	5
2-Hydroxy C12:0 methyl ester	71	3-keto-C8-Dihydrosphingosine•HCl	5
2-Hydroxy C14:0 fatty acid	71	3-keto-Dihydrosphingosine•HCl	4
2-Hydroxy C14:0 methyl ester	71	3-keto-Sphinganine hydrochloride	4
2-Hydroxy C16:0 fatty acid	71	4-Hydroxysphinganine	5
2-Hydroxy C16:0 methyl ester	71	5,22-Cholestadien-24- <i>beta</i> -ethyl-3- <i>beta</i> -ol	85
2-Hydroxy C18:0 fatty acid	71	5,7,8-Trimethyltolcol	81
2-Hydroxy C18:0 methyl ester	71	5,8-Dimethyltolcol	81
		5- <i>alpha</i> -Cholestane	84
		5- <i>beta</i> -Cholestan-3- <i>beta</i> -ol	84
		7,8-Dimethyltolcol	81
		8-Methyltolcol	82



9(E),11(E)-Octadecadienoic acid	69	C16:1 ( <i>cis</i> -9) Methyl ester	60
9(Z),11(E)-Octadecadienoic acid	68	C16:1 ( <i>trans</i> -9) Fatty acid	60, 66
9(Z),11(E)-Octadecadienoic acid (Na <sup>+</sup> salt)	68	C16:1 ( <i>trans</i> -9) Methyl ester	60, 66
9(Z),11(Z)-Octadecadienoic acid	69	C17:0 Fatty acid	56
9,10-Methylene-octadec-9-enoic acid	80	C17:0 Methyl ester	57
9- <i>cis</i> , 11- <i>cis</i> CLA	69	C17:1 ( <i>cis</i> -10) Fatty acid	60
9- <i>cis</i> , 11- <i>trans</i> CLA	68	C17:1 ( <i>cis</i> -10) Methyl ester	61
9- <i>cis</i> , 11- <i>trans</i> CLA (Na <sup>+</sup> salt)	68	C18:0 Fatty acid	57
9- <i>trans</i> , 11- <i>trans</i> CLA	69	C18:0 Methyl ester	57
		C18:0-CD <sub>3</sub> -Ceramide-1-phosphate	97
<b>A</b>		C18:1 ( <i>cis</i> -11) Fatty acid	61
AdaGb <sub>3</sub>	34	C18:1 ( <i>cis</i> -11) Methyl ester	61
Alditol Acetate Mixture-1	87	C18:1 ( <i>cis</i> -9) Fatty acid	61
Alditol Acetate Mixture-2	87	C18:1 ( <i>cis</i> -9) Methyl ester	61
<i>alpha</i> -Eleostearic acid methyl ester	63, 70	C18:1 ( <i>trans</i> -11) Fatty acid	61, 67
<i>alpha</i> -Linolenic acid	62	C18:1 ( <i>trans</i> -11) Methyl ester	62, 67
<i>alpha</i> -Tocotrienol	82	C18:1 ( <i>trans</i> -9) Fatty acid	61, 66
anteiso-C15 Fatty acid	79	C18:1 ( <i>trans</i> -9) Methyl ester	61, 66
anteiso-C15 Methyl ester	79	C18:2 (all <i>cis</i> -9,12) Fatty acid	62
anteiso-C16 Methyl ester	79	C18:2 (all <i>cis</i> -9,12) Methyl ester	62
anteiso-C17 Fatty acid	79	C18:2 (all <i>trans</i> -9,12) Fatty acid	62, 67
anteiso-C17 Methyl ester	79	C18:2 (all <i>trans</i> -9,12) Methyl ester	62, 67
anteiso-Heptadecanoic acid	79	C18:3 (all <i>cis</i> -6,9,12) Fatty acid	62
anteiso-Heptadecanoic methyl ester	79	C18:3 (all <i>cis</i> -6,9,12) Methyl ester	63
anteiso-Palmitic methyl ester	79	C18:3 (all <i>cis</i> -9,12,15) Fatty acid	62
anteiso-Pentadecanoic acid	79	C18:3 (all <i>cis</i> -9,12,15) Methyl ester	62
anteiso-Pentadecanoic methyl ester	79	C18:4 (all <i>cis</i> -6,9,12,15) Fatty acid	63
Anti-ganglioside asialo GM <sub>1</sub>	42	C18:4 (all <i>cis</i> -6,9,12,15) Methyl ester	63
Anti-ganglioside asialo GM <sub>2</sub>	42	C18 Quantitative mixture	86
Anti-ganglioside GD <sub>1b</sub>	43	C19:0 Fatty acid	57
Anti-ganglioside GD <sub>3</sub>	42	C19:0 Methyl ester	57
Anti-ganglioside GM <sub>1</sub>	42	C19:1 ( <i>cis</i> -10) Fatty acid	63
Anti-globoside GL-4	43	C19:1 ( <i>cis</i> -10) Methyl ester	63
Arachidic acid	57	C20:0 Fatty acid	57
Arachidonic acid (all <i>cis</i> -5,8,11,14)	64	C20:0 Methyl ester	57
Asialo GM <sub>1</sub>	38	C20:1 ( <i>cis</i> -11) Fatty acid	64
Asialo GM <sub>2</sub>	38	C20:1 ( <i>cis</i> -11) Methyl ester	64
		C20:2 (all <i>cis</i> -11,14) Fatty acid	64
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Bacterial Acid Methyl Esters CP Mixture	94	C20:3 (all <i>cis</i> -5,8,11) Methyl ester	64
Bacterial lipid standard, qualitative mixture	94	C20:3 (all <i>cis</i> -8,11,14) Methyl ester	64
Behenic acid	58	C20:4 (all <i>cis</i> -5,8,11,14) Fatty acid	64
<i>beta</i> -L-Gulopyranosyl-caldarchaetidyl-glycerol, (>50% pure)	53	C20:4 (all <i>cis</i> -5,8,11,14) Methyl ester	64
<i>beta</i> -L-Gulopyranosyl-caldarchaetidyl-glycerol, (>95% pure)	53	C20:5 (all <i>cis</i> -5,8,11,14,17) Fatty acid	65
<i>beta</i> -Sitostanol	85	C20:5 (all <i>cis</i> -5,8,11,14,17) Methyl ester	65
<i>beta</i> -Tocotrienol	83	C20 Quantitative mixture	87
Biotin-C6:0-GD <sub>3</sub>	41, 103	C21:0 Fatty acid	57
Biotin-C6:0-GM <sub>1</sub>	39, 103	C21:0 Methyl ester	58
		C22:0 Fatty acid	58
<b>C</b>		C22:0 Methyl ester	58
C10:0 Methyl ester	55	C22:1 ( <i>cis</i> -13) Fatty acid	65
C11:0 Fatty acid	55	C22:1 ( <i>cis</i> -13) Methyl ester	65
C11:0 Methyl ester	55	C22:5 (all <i>cis</i> -7,10,13,16,19) Fatty acid	65
C12:0 Fatty acid	55	C22:5 (all <i>cis</i> -7,10,13,16,19) Methyl ester	65
C12:0 Methyl ester	55	C22:6 (all <i>cis</i> -4,7,10,13,16,19) Methyl ester	66
C13:0 Fatty acid	55	C22:6 (all <i>cis</i> -4,7,10,13,16,19) <i>omega</i> -3 Fatty acid	65
C13:0 Methyl ester	56	C23:0 Fatty acid	58
C14:0 Fatty acid	56	C23:0 Methyl ester	58
C14:0 Methyl ester	56	C24:0 Fatty acid	58
C14:1 ( <i>cis</i> -9) Fatty acid	59	C24:0 Methyl ester	58
C14:1 ( <i>cis</i> -9) Methyl ester	59	C24:0, C26:0, C28:0, C30:0, C32:0 Fatty acid methyl ester mixture	88
C15:0 Fatty acid	56	C24:1 ( <i>cis</i> -15) Fatty acid	66
C15:0 Methyl ester	56	C24:1 ( <i>cis</i> -15) Methyl ester	66
C15:1 ( <i>cis</i> -10) Fatty acid	59	C26:0 Fatty acid	58
C15:1 ( <i>cis</i> -10) Methyl ester	60	C26:0 Methyl ester	59
C16:0 Fatty acid	56	C28:0 Methyl ester	59
C16:0 Methyl ester	56	C30:0 Methyl ester	59
C16:1 ( <i>cis</i> -11/ <i>trans</i> -11) Fatty acid	60	C32:0 Methyl ester	59
C16:1 ( <i>cis</i> -6) Fatty acid	60	C6:0 Methyl ester	54
C16:1 ( <i>cis</i> -9) Fatty acid	60	C7:0 Fatty acid	54
		C7:0 Methyl ester	54

C8:0 Fatty acid	54	D-erythro-C14-Sphingosine	2
C8:0 Methyl ester	54	D-erythro-C17-Sphingosine	3
C9:0 Fatty acid	55	D-erythro-C20-Dihydrosphingosine	4
C9:0 Methyl ester	55	D-erythro-C20-Sphingosine	3
Caprylic acid	54	D-erythro-Dihydrosphingosine	3
CDH, bovine buttermilk	31	D-erythro-Dihydrosphingosine-1-phosphate	21
CDH, porcine RBC	31	D-erythro-SPC	20
Ceramide <i>beta</i> -D-galactoside	23	D-erythro-Sphinganine, C18 chain	3
Ceramide <i>beta</i> -D-glucoside, buttermilk	26	D-erythro-Sphinganine, C20 chain	4
Ceramide <i>beta</i> -D-glucoside, Gaucher's spleen	26	D-erythro-Sphingomyelin with 1- <sup>13</sup> C-palmitic acid	20, 97
Ceramide <i>beta</i> -D-glucoside, plant	26	D-erythro-Sphingosine	2
Ceramide <i>beta</i> -lactoside, bovine buttermilk	31	D-erythro-Sphingosine, D9	2, 96
Ceramide <i>beta</i> -lactoside, porcine RBC	31	D-erythro-Sphingosine-1-phosphate	21
Ceramide EOP	10, 16	D-erythro-Sphingosylphosphorylcholine	20
Ceramide EOS	10	DGDG (hydrogenated), plant	54
Ceramide phosphorylethanolamine	20	DHA	65
Ceramide trihexosides	33, 105	DHA methyl ester	66
Ceramide trihexosides (bottom spot)	33, 108	DHDPC	50
Ceramide trihexosides (top spot)	33, 107	Digalactosyldiglyceride (hydrogenated), plant	54, 105
Ceramide-1-phosphorylcholine, bovine	18	Dihydrosphingosylphosphorylcholine	
Ceramide-1-phosphorylcholine, buttermilk	19	(mixture of D-erythro and L-threo isomers)	21
Ceramide-1-phosphorylcholine, egg	19	Dihydrosterculic acid	80
Ceramide-1-phosphorylcholine, porcine RBC	19	Disialoganglioside GD <sub>1a</sub>	40, 105
Ceramide-galactoside-3-sulfate, bovine	28	Disialoganglioside GD <sub>1b</sub> , bovine	40, 107
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Ceramides with mostly hydroxy acyl groups	14	DLPE	52
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Cerebronic acid	72	D-MAPP	44
Cerebroside sulfate, bovine	28	DMPA	49
Cerebroside; Kerasin (top spot)	23, 105	DMPC	50
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Cerotic acid	58	Docosahexaenoic acid (all <i>cis</i> -4,7,10,13,16,19)	65
Cholesterol	84	Docosanoic acid	58
<i>cis</i> -9,10-Methyleneoctadecanoic acid	80	Docosapentaenoic acid (all <i>cis</i> -7,10,13,16,19)	65
<i>Cis-Trans</i> FAME Isomer Standard Mixture	67, 88	Docosenoic acid ( <i>cis</i> -13)	65
<i>cis</i> -Vaccenic acid	61	Dodecanoic acid	55
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Conduritol B Epoxide	44	DPA methyl ester	65
Conjugated linolenic acid methyl ester	63, 69, 70	DPPA	50
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		DSPC	51
		DSPE	52
		DSPE-MPEG-2000	53
		DSPG	52
		D-threo-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl	45
		D-threo-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl	46
		D-threo-Dihydrosphingosine	4
		D-threo-PDMP	45
		D-threo-PPMP	46
		D-threo-Sphinganine, C18 chain	4
		<b>E</b>	
		Eicosadienoic acid (all <i>cis</i> -11,14)	64
		Eicosanoic acid	57
		Eicosapentaenoic acid (all <i>cis</i> -5,8,11,14,17)	65
		Eicosatetraenoic acid (all <i>cis</i> -5,8,11,14)	64
		Eicosenoic acid ( <i>cis</i> -11)	64
		Elaidic acid	61, 66
		EOP Ceramide 9	10, 16
		EOS Ceramide 1	10
		EOS Ceramide, deuterated	10, 96
		EPA	65
		EPA methyl ester	65
D,L-1,2-Anhydro-myo-inositol	44		
D,L-2,6-Dimethylheptanoic acid	79		
D,L-C16-Dihydrosphingosine (mixed isomers)	4		
D,L-erythro-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl	45		
D,L-erythro-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl	45		
D,L-erythro-C20-Dihydrosphingosine	4		
D,L-erythro-Dihydrosphingosine	4		
D,L-erythro-PDMP	45		
D,L-erythro-PPMP	45		
D,L-erythro-Sphinganine, C18 chain	4		
D,L-erythro-Sphinganine, C20 chain	4		
D,L-Sphinganine with C16 chain	4		
D,L-threo-1-Phenyl-2-decanoylamino-3-morpholino-1-propanol•HCl	45		
D,L-threo-1-Phenyl-2-hexadecanoylamino-3-morpholino-1-propanol•HCl	45		
D,L-threo-PDMP	45		
D,L-threo-PPMP	45		
<i>delta</i> -Tocotrienol	83		
D-erythro-2-Tetradecanoylamino-1-phenyl-1-propanol	44		
D-erythro-C12-Sphingosine	2		

Ergosterol	85	Hexadecanoic acid	56
Erucic acid	65	Hexadecenoic acid ( <i>cis</i> -6)	60
Esterified Sterolins	85	Hexadecenoic acid ( <i>cis</i> -9)	60
Esterified Steryl Glucosides	85, 106	Hexadecenoic acid ( <i>trans</i> -9)	60, 66
<b>F</b>		<b>I</b>	
FIM-FAME-6 Mixture	86	<i>iso</i> -C13 Methyl ester	77
FIM-FAME-7 Mixture	86	<i>iso</i> -C14 Methyl ester	78
FIM-FAME-8 Mixture	86	<i>iso</i> -C15 Fatty acid	78
FIM-FAME-9 Mixture	87	<i>iso</i> -C15 Methyl ester	78
Fucosyl GM <sub>1</sub>	39	<i>iso</i> -C16 Methyl ester	78
Fucosylated monosialoganglioside GM <sub>1</sub>	39, 108	<i>iso</i> -C17 Fatty acid	78
<b>G</b>		<i>iso</i> -C17 Methyl ester	78
Galactosylceramide	23	<i>iso</i> -C19 Methyl ester	78
Galactosylceramide with		<i>iso</i> -Heptadecanoic acid	78
mostly 2-hydroxy fatty acid side chains	23	<i>iso</i> -Heptadecanoic methyl ester	78
Galactosylceramide with		<i>iso</i> -Nonadecanoic methyl ester	78
mostly non-hydroxy fatty acid side chain	23	<i>iso</i> -Palmitic methyl ester	78
<i>gamma</i> -Linolenic acid	62	<i>iso</i> -Pentadecanoic acid	78
<i>gamma</i> -Tocotrienol	83	<i>iso</i> -Pentadecanoic methyl ester	78
Gangliotetraosylceramide	38, 105	<i>iso</i> -Tetradecanoic methyl ester	78
Gangliotetraosylceramide and Sialosyl		<i>iso</i> -Tridecanoic methyl ester	77
Derivatives Mixture	42, 96	<b>J</b>	
Gangliotriaosylceramide	38	Jacaric acid methyl ester	63, 70
Gb <sub>3</sub>	33	<b>K</b>	
Gb <sub>4</sub>	35	KEL-FIM-FAME-5 Mixture	86
GD <sub>1a</sub>	40	<b>L</b>	
GD <sub>1b</sub> , bovine	40	Lactocerebrosides, bovine buttermilk	31
GD <sub>2</sub>	40	Lactocerebrosides, porcine RBC	31
GD <sub>3</sub> , buttermilk	40	Lactosylceramide and Sialosyl Derivatives Mixture	42, 96
Gg3	38	Lactosylceramide with C17:0 fatty acid side chain	32
Gg4	38	Lactosylceramides, bovine buttermilk	31, 107
GLC-10 Mixture	92	Lactosylceramides, porcine RBC	31, 107
GLC-100 Mixture	93	Lactosylsphingosine, bovine buttermilk	31
GLC-110 Mixture	94	Lactosylsphingosine, synthetic	31
GLC-30 Mixture	92	Lanosterol	85
GLC-40 Mixture	92	Lauric acid	55
GLC-50 Mixture	93	LC, bovine buttermilk	31
GLC-60 Mixture	93	LC, porcine RBC	31
GLC-70 Mixture	93	Lecithin, bovine	48, 106
GLC-80 Mixture	93	Lecithin, egg	47, 104
GLC-90 Mixture	93	L- <i>erythro</i> -2-Tetradecanoylamino-1-phenyl-1-propanol	44
Globosides	35, 106	L- <i>erythro</i> -Dihydrosphingosine	3
Globotetrahexosylceramide	35	L- <i>erythro</i> -Sphinganine, C18 chain	3
Globotriaosylceramide	33	L- <i>erythro</i> -Sphingosine	2
Glucocerebrosides, buttermilk	26, 108	L- <i>erythro</i> -Sphingosine, C18 chain	2
Glucocerebrosides, Gaucher's spleen	26, 105	Lignoceric acid	58
Glucocerebrosides, plant	26, 108	Linoleic acid (all <i>trans</i> -9,12)	62, 67
Glucopsychosine, buttermilk	27	Linoleic acid	62
Glucopsychosine, plant	27	Lissamine-rhodamine B-dodecanoyl-galactosylceramide	25, 37, 101
Glucosylceramide, buttermilk	26	L-MAPP	44
Glucosylceramide, Gaucher's spleen	26	Long Chain Fatty Acid Methyl Ester Mixture	88
Glucosylceramide, plant	26	L- <i>threo</i> -1-Phenyl-2-decanoylamino-3-	
Glucosylpsychosine, synthetic	26	morpholino-1-propanol•HCl	45
Glucosylsphingosine, buttermilk	27	L- <i>threo</i> -1-Phenyl-2-hexadecanoylamino-3-	
Glucosylsphingosine, plant	27	morpholino-1-propanol•HCl	46
Glucosylsphingosine, synthetic	26	L- <i>threo</i> -Dihydrosphingosine (Safingol)	3, 44
GM <sub>1</sub>	38	L- <i>threo</i> -PDMP	45
GM <sub>2</sub>	39	L- <i>threo</i> -PPMP	46
GM <sub>3</sub>	39	L- <i>threo</i> -SPC	21
GM <sub>4</sub>	40	L- <i>threo</i> -Sphinganine, C18 chain	3, 44
Gondoic acid	64	L- <i>threo</i> -Sphingosine	2
GQ <sub>1b</sub>	41	L- <i>threo</i> -Sphingosine, C18 chain	2
GT <sub>1b</sub>	41	L- <i>threo</i> -Sphingosylphosphorylcholine	21
<b>H</b>		<i>lyso</i> -Ceramide trihexoside	33
Heneicosanoic acid	57	<i>lyso</i> -Cerebroside (free amine form)	24
Heptadecanoic acid	56	<i>lyso</i> -Cerebroside, synthetic	24
Heptadecenoic acid ( <i>cis</i> -10)	60	<i>lyso</i> -CTH	33
Heptanoic acid	54		
Hexacosanoic acid	58		





N-C17:0-Lactosylceramide	32	N-C6:0-NBD-L- <i>threo</i> -Dihydrosphingosine	17, 99
N-C17:0-Sphingomyelin	19	N-C6:0-NBD-L- <i>threo</i> -Sphingosine	17, 99
N-C17:0-Sulfatide	29	N-C6:0-NBD-Phytoceramide	18, 100
N-C18:0-CD <sub>3</sub> -Ceramide-1-phosphate	22	N-C6:0-NBD-Phytosphingosine	18, 100
N-C18:0-CD <sub>3</sub> -CTH	34, 36, 98	N-C6:0-NBD-Sphingomyelin	22, 100
N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Ceramide	9, 96	N-C6:0-NBD-Sphingosylphosphorylcholine	22, 100
N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Dihydroceramide	13, 96	N-C6:0-Phytoceramide	15
N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub>	34, 36, 98	N-C8:0-D- <i>erythro</i> -Ceramide	8
N-C18:0-CD <sub>3</sub> -Phytoceramide	16, 97	N-C8:0-D- <i>erythro</i> -Dihydroceramide	12
N-C18:0-CD <sub>3</sub> -Sulfatide	30, 36, 97	N-C8:0-D- <i>threo</i> -Ceramide	8
N-C18:0-Ceramide trihexoside	34	N-C8:0-Galactosylceramide	24
N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated	25, 35, 97	N-C8:0-L- <i>threo</i> -Ceramide	8
N-C18:0-D- <i>erythro</i> -Ceramide	9	N-C8:0-Phytoceramide	15
N-C18:0-D- <i>erythro</i> -Dihydroceramide	13	N-CD <sub>3</sub> -Stearoyl GD <sub>3</sub>	40, 98
N-C18:0-D- <i>threo</i> -Ceramide	9	N-CD <sub>3</sub> -Stearoyl GM <sub>1</sub>	39, 98
N-C18:0-L- <i>erythro</i> -Ceramide	9	N-CD <sub>3</sub> -Stearoyl GM <sub>2</sub>	39, 98
N-C18:0-L- <i>threo</i> -Ceramide	9	N-CD <sub>3</sub> -Stearoyl GM <sub>3</sub>	39, 98
N-C18:0-Phytoceramide	15	N- <i>cis</i> -15-C24:1-D- <i>erythro</i> -Ceramide	10
N-C18:0-Sphingomyelin	19	N-Decanoyl-D- <i>erythro</i> -sphingosine	8
N-C18:0-Sulfatide	29	N-Docosanoyl- <i>beta</i> -glucosylsphingosine	27
N-C18:1-D- <i>erythro</i> -Ceramide	9	N-Docosanoyl-D- <i>erythro</i> -sphingosylphosphorylcholine	20
N-C18:1-Sulfatide	29	N-Docosanoyl-glucopsychosine	27
N-C19:0-D- <i>erythro</i> -Ceramide	9	N-Dodecanoyl- <i>beta</i> -D-galactosylceramide	24
N-C19:0-Sulfatide	29	N-Dodecanoyl- <i>beta</i> -D-galactosylsphingosine	24
N-C2:0 Ceramide of D- <i>erythro</i> -C14-sphingosine	11	N-Dodecanoyl-D- <i>erythro</i> -sphingosine	8
N-C2:0-Cerebroside	24	N-Dodecanoyl-NBD- <i>beta</i> -D-lactosylsphingosine	32, 37, 101
N-C2:0-D- <i>erythro</i> -Ceramide	7	N-Dodecanoyl-NBD-ceramide trihexoside	34, 37, 101
N-C2:0-D- <i>erythro</i> -Dihydroceramide	12	N-Dodecanoyl-NBD-D- <i>erythro</i> -dihydrosphingosine	18, 100
N-C2:0-L- <i>erythro</i> -Ceramide	7	N-Dodecanoyl-NBD-D- <i>erythro</i> -sphingosine	17, 99
N-C2:0-L- <i>threo</i> -Ceramide	7	N-Dodecanoyl-NBD-galactosylceramide	25, 36, 101
N-C2:0-Phytoceramide	15	N-Dodecanoyl-NBD-lactosylceramide	32, 37, 101
N-C2:0-Sphingomyelin	19	N-Dodecanoyl-NBD-L- <i>threo</i> -dihydrosphingosine	17, 99
N-C2:0-Sulfatide	29	N-Dodecanoyl-NBD-L- <i>threo</i> -sphingosine	17, 99
N-C20:0-Sphingomyelin	20	N-Dodecanoyl-NBD- <i>lyso</i> -sulfatide	30, 37, 101
N-C22:0-Glucocerebroside	27	N-Dodecanoyl-NBD-phytosphingosine	18, 100
N-C22:0-Sphingomyelin	20	N-Dodecanoyl-NBD-sphingosyl- <i>beta</i> -D-	
N-C23:0-Ceramide trihexoside	34	galactoside-3-sulfate	30, 37, 101
N-C24:0-D- <i>erythro</i> -Ceramide	10	N-Dodecanoyl-NBD-sphingosylphosphorylcholine	22, 100
N-C24:0-D- <i>erythro</i> -Dihydroceramide	13	N-Dodecanoyl-NBD-sulfatide	30, 37, 101
N-C24:0-Phytoceramide	16	N-Dodecanoyl-sphingosyl- <i>beta</i> -D-	
N-C24:0-Sulfatide	30	galactoside-3-sulfate	29
N-C24:1-Sulfatide	30	N-Dodecanoyl-sulfatide	29
N-C30:0-D- <i>erythro</i> -Ceramide	10	N-Dotriacontanoyl-D- <i>erythro</i> -sphingosine	10
N-C32:0-D- <i>erythro</i> -Ceramide	10	N-Eicosanoyl-D- <i>erythro</i> -sphingosylphosphorylcholine	20
N-C6:0-biotin- <i>beta</i> -D-galactosylsphingosine	25	Nervonic acid ( <i>cis</i> -15)	66
N-C6:0-biotin- <i>beta</i> -D-Galactosylsphingosine	102	Neutral Glycosphingolipid Mixture	41, 95
N-C6:0-biotin- <i>beta</i> -D-Glucosylsphingosine	28, 102	N-Glycinated 1- <i>beta</i> -D- <i>lyso</i> -glucosylceramide	27
N-C6:0-biotin- <i>beta</i> -D-Lactosylceramide	32, 102	N-Glycinated cerebroside	24
N-C6:0-biotin-Cerebroside	25, 102	N-Glycinated galactosylceramide	24
N-C6:0-biotin-D- <i>erythro</i> -Ceramide	11, 102	N-Glycinated galactosylsphingosine	24
N-C6:0-Biotin-dihydroceramide	13, 102	N-Glycinated globotriaosylsphingosine	33
N-C6:0-biotin-Glucosylceramide	28, 102	N-Glycinated glucosylsphingosine	27
N-C6:0-biotin-Phytoceramide	16, 102	N-Glycinated lactosylsphingosine	31
N-C6:0-Biotin-sphinganine	13, 102	N-Glycinated <i>lyso</i> -ceramide trihexoside	33
N-C6:0-biotin-Sulfatide	30, 102	N-Glycinated <i>lyso</i> -lactosylceramide	31
N-C6:0-D- <i>erythro</i> -Ceramide	7	N-Glycinated <i>lyso</i> -sulfatide	28
N-C6:0-D- <i>erythro</i> -Dihydroceramide	12	N-Glycinated psychosine	24
N-C6:0-D- <i>threo</i> -Ceramide	8	N-Glycinated sphingosine-1-galactoside-3-sulfate	28
N-C6:0-Glucocerebroside	27	N-Glycine 1- <i>beta</i> -lactosyl-sphing-4-enine	31
N-C6:0-L- <i>erythro</i> -Ceramide	7	N-Glycine glucopsychosine	27
N-C6:0-L- <i>threo</i> -Ceramide	7	N-Heptadecanoyl globotriaosylceramide	34
N-C6:0-NBD- <i>beta</i> -D-Galactosylsphingosine	25, 36, 100	N-Heptadecanoyl-ceramide trihexoside	34
N-C6:0-NBD- <i>beta</i> -D-Glucosylsphingosine	28, 36, 101	N-Heptadecanoyl-D- <i>erythro</i> -dihydrosphingosine	12
N-C6:0-NBD- <i>beta</i> -D-Lactosylsphingosine	32, 37, 101	N-Heptadecanoyl-D- <i>erythro</i> -sphinganine	12
N-C6:0-NBD-Ceramide	17, 99	N-Heptadecanoyl-D- <i>erythro</i> -sphingosine	9
N-C6:0-NBD-Cerebroside	25, 36, 100	N-Heptadecanoyl-lactosylceramide	32
N-C6:0-NBD-D- <i>erythro</i> -Dihydrosphingosine	18, 100	N-Heptadecanoyl-sphingosyl- <i>beta</i> -D-	
N-C6:0-NBD-D- <i>erythro</i> -Sphingosine	17, 99	galactoside-3-sulfate	29
N-C6:0-NBD-Dihydroceramide	17, 18, 99, 100	N-Heptadecanoyl-sphingosylphosphorylcholine	19
N-C6:0-NBD-Galactosylceramide, fluorescent	25, 36, 100	N-Heptadecanoyl-sulfatide	29
N-C6:0-NBD-Glucosylceramide, fluorescent	28, 36, 101	N-Hexadecanoyl globotriaosylceramide	33
N-C6:0-NBD-Lactosylceramide	32, 37, 101	N-Hexadecanoyl-ceramide trihexoside	33

N-Hexadecanoyl-D-erythro-dihydrosphingosine	12	N-Octanoyl-beta-D-galactosylceramide	24
N-Hexadecanoyl-D-erythro-sphinganine	12	N-Octanoyl-D-erythro-dihydrosphingosine	12
N-Hexadecanoyl-D-erythro-sphingosine	8	N-Octanoyl-D-erythro-sphinganine	12
N-Hexadecanoyl-D-erythro-sphingosine (C16 sphingolipid base)	12	N-Octanoyl-D-erythro-sphingosine	8
N-Hexadecanoyl-D-erythro-sphingosine-1-phosphate	21	N-Octanoyl-D-threo-sphingosine	8
N-Hexadecanoyl-lactosylceramide	31	N-Octanoyl-L-threo-sphingosine	8
N-Hexadecanoyl-phytosphingosine	15	N-Octanoyl-phytosphingosine	15
N-Hexadecanoyl-sulfatide	29	NOE	43, 81
N-Hexanoyl-beta-D-glucosylsphingosine	27	N-Oleoyl-D-erythro-sphingosine	9
N-Hexanoyl-biotin-D-erythro-dihydrosphingosine	13, 102	N-Oleoyl-ethanolamine	43, 81
N-Hexanoyl-biotin-D-erythro-sphingosine	11, 102	N-omega-CD <sub>3</sub> -Hexadecanoyl-glucopsychosine	27, 35, 97
N-Hexanoyl-biotin-disialoganglioside GD <sub>3</sub>	41, 103	N-omega-CD <sub>3</sub> -Hexadecanoyl-lactosylceramide	32, 36, 98
N-Hexanoyl-biotin-galactosylceramide	25, 102	N-omega-CD <sub>3</sub> -Octadecanoyl disialoganglioside GD <sub>3</sub>	40, 98
N-Hexanoyl-biotin-glucosylceramide	28, 102	N-omega-CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>1</sub>	39, 98
N-Hexanoyl-biotin-lactosylceramide	32, 102	N-omega-CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>2</sub>	39, 98
N-Hexanoyl-biotin-monosialoganglioside GM <sub>1</sub>	39, 103	N-omega-CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>3</sub>	39, 98
N-Hexanoyl-biotin-phytosphingosine	16, 102	N-omega-CD <sub>3</sub> -Octadecanoyl-ceramide trihexoside	34, 36, 98
N-Hexanoyl-biotin-sphingosyl-beta-D-galactoside-3-sulfate	30, 102	N-omega-CD <sub>3</sub> -Octadecanoyl-D-erythro-dihydrosphingosine	13, 96
N-Hexanoyl-biotin-sulfatide	30, 102	N-omega-CD <sub>3</sub> -Octadecanoyl-D-erythro-sphingosine	9, 96
N-Hexanoyl-D-erythro-dihydrosphingosine	12	N-omega-CD <sub>3</sub> -Octadecanoyl-D-erythro-sphingosine-1-phosphate	22, 97
N-Hexanoyl-D-erythro-sphinganine	12	N-omega-CD <sub>3</sub> -Octadecanoyl-phytosphingosine	16, 97
N-Hexanoyl-D-erythro-sphingosine	7	N-omega-CD <sub>3</sub> -Octadecanoyl-sulfatide	30, 36, 97
N-Hexanoyl-D-threo-sphingosine	8	N-omega-Hydroxy-C30:0-D-erythro-ceramide	10
N-Hexanoyl-glucosylceramide	27	N-omega-Hydroxytriacontanoyl-D-erythro-sphingosine	10
N-Hexanoyl-L-erythro-sphingosine	7	Nonadecanoic acid	57
N-Hexanoyl-L-threo-sphingosine	7	Nonadecenoic acid (cis-10)	63
N-Hexanoyl-NBD-beta-D-lactosylsphingosine	32, 37, 101	Nonanoic acid	55
N-Hexanoyl-NBD-D-erythro-dihydrosphingosine	18, 100	Non-Polar Lipid Mixture A	95
N-Hexanoyl-NBD-D-erythro-sphingosine	17, 99	Non-Polar Lipid Mixture B	95
N-Hexanoyl-NBD-galactosylceramide	25, 36, 100	Non-Volatile Acid Mixture	94
N-Hexanoyl-NBD-glucosylceramide	28, 36, 101	N-Palmitoyl-CD <sub>3</sub> -glucopsychosine	27, 35, 97
N-Hexanoyl-NBD-lactosylceramide	32, 37, 101	N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	32, 36, 98
N-Hexanoyl-NBD-L-threo-dihydrosphingosine	17, 99	N-Palmitoyl-D-erythro-C16-sphingosine	12
N-Hexanoyl-NBD-L-threo-sphingosine	17, 99	N-Palmitoyl-D-erythro-sphingosine	8
N-Hexanoyl-NBD-phytosphingosine	18, 100	N-Palmitoyl-lactosylceramide	31
N-Hexanoyl-NBD-sphingosylphosphorylcholine	22, 100	N-Palmitoyl-phytosphingosine	15
N-Hexanoyl-phytosphingosine	15	N-Palmitoyl-sphingosyl-beta-D-galactoside-3-sulfate	29
N-Lignoceroyl-D-erythro-sphingosine	10	N-Palmitoyl-sulfatide	29
N-Lignoceroyl-phytosphingosine	16	N-Pentadecanoyl-D-erythro-sphingosine	8
N-Lignoceroyl-sulfatide	30	N-Pentadecanoyl-psychose	24
N-Lignoceryl-D-erythro-dihydrosphingosine	13	N-Stearoyl-CD <sub>3</sub> -C1P	22, 97
N-Nervonoyl-D-erythro-sphingosine	10	N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	34, 36, 98
N-Nervonoyl-sulfatide	30	N-Stearoyl-CD <sub>3</sub> -D-erythro-sphinganine	13, 96
N-Nonadecanoyl-D-erythro-sphingosine	9	N-Stearoyl-CD <sub>3</sub> -D-erythro-sphingosine	9, 96
N-Nonadecanoyl-sphingosyl-beta-D-galactoside-3-sulfate	29	N-Stearoyl-CD <sub>3</sub> -phytosphingosine	16, 97
N-Nonadecanoyl-sulfatide	29	N-Stearoyl-CD <sub>3</sub> -sulfatide	30, 36, 97
N-Octadecanoyl globotriaosylceramide	34	N-Stearoyl-D <sub>35</sub> -psychose, perdeuterated	25, 35, 97
N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide	34, 36, 98	N-Stearoyl-D-erythro-dihydrosphingosine	13
N-Octadecanoyl-ceramide trihexoside	34	N-Stearoyl-D-erythro-sphingosine	9
N-Octadecanoyl-D <sub>35</sub> -psychose, (perdeuterated, C18:0 fatty acid)	25, 35, 97	N-Stearoyl-D-threo-sphingosine	9
N-Octadecanoyl-D-erythro-dihydrosphingosine	13	N-Stearoyl-L-erythro-sphingosine	9
N-Octadecanoyl-D-erythro-sphinganine	13	N-Stearoyl-L-threo-sphingosine	9
N-Octadecanoyl-D-erythro-sphingosine	9	N-Stearoyl-phytosphingosine	15
N-Octadecanoyl-D-threo-sphingosine	9	N-Stearoyl-sphingosylphosphorylcholine	19
N-Octadecanoyl-lactosylceramide sulfatide	30, 32	N-Tetracosanoyl-D-erythro-dihydrosphingosine	13
N-Octadecanoyl-lactosylceramide-3'-sulfate	30, 32	N-Tetracosanoyl-D-erythro-sphinganine	13
N-Octadecanoyl-L-erythro-sphingosine	9	N-Tetracosanoyl-D-erythro-sphingosine	10
N-Octadecanoyl-L-threo-sphingosine	9	N-Tetracosanoyl-phytosphingosine	16
N-Octadecanoyl-phytosphingosine	15	N-Tetracosanoyl-sphingosyl-beta-D-galactoside-3-sulfate	30
N-Octadecanoyl-sphingosyl-beta-D-galactoside-3-sulfate	29	N-Tetracosanoyl-sulfatide	30
N-Octadecanoyl-sphingosylphosphorylcholine	19	N-Tetracosenoyl-(cis-15)-D-erythro-sphingosine	10
N-Octadecanoyl-sulfated-lactosylceramide	30, 32	N-Tetracosenoyl-(cis-15)-sulfatide	30
N-Octadecanoyl-sulfatide	29	N-Tetracosenoyl-sphingosyl-beta-D-galactoside-3-sulfate	30
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<b>O</b>		
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Octadecadienoic acid (all <i>cis</i> -9,12)	62	
Octadecadienoic acid (all <i>trans</i> -9,12)	62, 67	
Octadecanoic acid	57	
Octadecatrienoic acid (all <i>cis</i> -6,9,12)	62	
Octadecatrienoic acid (all <i>cis</i> -9,12,15)	62	
Octadecenoic acid ( <i>cis</i> -11)	61	
Octadecenoic acid ( <i>cis</i> -9)	61	
Octadecenoic acid ( <i>trans</i> -11)	61, 67	
Octadecenoic acid ( <i>trans</i> -9)	61, 66	
Octanoic acid	54	
Oleic acid	61	
<i>omega</i> -3 Fatty acid	65	
<i>omega</i> -Hydroxy C10:1 (2- <i>trans</i> ) fatty acid	76	
<i>omega</i> -Hydroxy C15:0 fatty acid	76	
<i>omega</i> -Hydroxy C15:0 methyl ester	76	
<i>omega</i> -Hydroxy C17:0 fatty acid	76	
<i>omega</i> -Hydroxy C17:0 methyl ester	76	
<i>omega</i> -Hydroxy C20:0 fatty acid	76	
<i>omega</i> -Hydroxy C20:0 methyl ester	76	
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<i>omega</i> -Hydroxy C22:0 fatty acid	77	
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Phosphatidic acid, egg	48, 104	
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Phytanic acid	80	
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PI, plant, soy	48	
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POPC	51	
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PS, bovine	48	
Psychosine (free amine form)	24	
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PUFA-1	87	
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<i>rac</i> -5,7-Dimethyltolcol		82
<i>rac</i> - <i>alpha</i> -Tocopherol		81
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SPM, egg		19
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Stearic acid		57
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N-(R)- <i>alpha</i> -Hydroxytetracosanoyl-D- <i>erythro</i> -sphingosine	11
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N-(R,S)- <i>alpha</i> -Hydroxy-C18:0-D- <i>erythro</i> -ceramide	11
N-(R,S)- <i>alpha</i> -Hydroxyoctadecanoyl-D- <i>erythro</i> -sphingosine	11
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N-(S)- <i>alpha</i> -Hydroxytetracosanoyl-D- <i>erythro</i> -dihydrosphingosine	11
N-(S)- <i>alpha</i> -Hydroxytetracosanoyl-D- <i>erythro</i> -sphingosine	11
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N-(R)- <i>alpha</i> -Hydroxy-C24:0-sphinganine	14
N-(R)- <i>alpha</i> -Hydroxytetracosanoyl-D- <i>erythro</i> -dihydrosphingosine	14
N-(R)-Cerebronoyl-dihydroceramide	14
N-(R,S)- <i>alpha</i> -Hydroxy-C12:0-D- <i>erythro</i> -dihydroceramide	13
N-(R,S)- <i>alpha</i> -Hydroxy-C16:0-D- <i>erythro</i> -dihydroceramide	13

N-(R,S)- <i>alpha</i> -Hydroxy-C18:0-D- <i>erythro</i> -dihydroceramide	13
N-(R,S)- <i>alpha</i> -Hydroxydodecanoyl-D- <i>erythro</i> -dihydrosphingosine	13
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N-(R,S)- <i>alpha</i> -Hydroxypalmitoyl-D- <i>erythro</i> -dihydrosphingosine	13
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N-(S)- <i>alpha</i> -Hydroxy-C24 0-sphinganine	14
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Methyl 3-hydroxyoctanoate	73
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## 3-keto-Dihydrosphingosines

1-Hydroxy-2-amino-3-keto-dodecane • HCl	5
1-Hydroxy-2-amino-3-keto-hexane • HCl	5
1-Hydroxy-2-amino-3-keto-octane • HCl	5
3-keto-C12-Dihydrosphingosine•HCl	5
3-keto-C6-Dihydrosphingosine•HCl	5
3-keto-C8-Dihydrosphingosine•HCl	5

3-keto-Dihydrosphingosine•HCl	4	N-Hexanoyl-biotin-galactosylceramide	102
3-keto-Sphinganine hydrochloride	4	N-Hexanoyl-biotin-glucosylceramide	102
		N-Hexanoyl-biotin-lactosylceramide	102
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12-Methyltetradecanoic acid	79	N-Hexanoyl-biotin-phytosphingosine	102
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Anti-ganglioside GD <sub>1b</sub>	43	<i>iso</i> -Palmitic methyl ester	78
Anti-ganglioside GD <sub>3</sub>	42	<i>iso</i> -Pentadecanoic acid	78
Anti-ganglioside GM <sub>1</sub>	42	<i>iso</i> -Pentadecanoic methyl ester	78
Anti-globoside GL-4	43	<i>iso</i> -Tetradecanoic methyl ester	78
Monoclonal antibody to GD <sub>3</sub> , isotype IgG/IgM	42	<i>iso</i> -tridecanoic methyl ester	77
Polyclonal antibody to asialo GM <sub>1</sub> , isotype IgG/IgM	42	Methyl 11-methyl dodecanoate	77
Polyclonal antibody to asialo GM <sub>2</sub> , isotype IgG/IgM	42	Methyl 12-methyltridecanoate	78
Polyclonal antibody to GD <sub>1b</sub> , isotype IgG/IgM	43	Methyl 13-methyltetradecanoate	78
Polyclonal antibody to GL-4, isotype IgG/IgM	43	Methyl 14-methylpentadecanoate	78
Polyclonal antibody to GM <sub>1</sub> , isotype IgG/IgM	42	Methyl 15-methylhexadecanoate	78
		Methyl 17-methyloctadecanoate	78
<b>AOCS Animal &amp; Vegetable Oil Reference Mixtures</b>		<b>Carbohydrate Mixtures</b>	
Rapeseed Oil Reference Mixture	89	Alditol Acetate Mixture-1	87
RM-1 Mixture	89	Alditol Acetate Mixture-2	87
RM-2 Mixture	89		
RM-3 Mixture	90	<b>Ceramide Trihexosides</b>	
RM-4 Mixture	90	AdaGb <sub>3</sub>	34
RM-5 Mixture	90	Ceramide trihexosides	33
RM-6 Mixture	90	Ceramide trihexosides (bottom spot)	33
		Ceramide trihexosides (top spot)	33
<b>Bacterial Tetraethers</b>		CTH	33
<i>beta</i> -L-Gulopyranosyl-caldarchaetidyl-glycerol,		CTH with hydroxy fatty acid side	33
(>50% pure)	53	CTH with non-hydroxy fatty acid side chain	33
<i>beta</i> -L-Gulopyranosyl-caldarchaetidyl-glycerol,		Gb <sub>3</sub>	33
(>95% pure)	53	Globotriaosylceramide	33
Main phospholipid (MPL) of <i>Thermoplasma acidophilum</i> ,		<i>lyso</i> -Ceramide trihexoside	33
(>50% pure)	53	<i>lyso</i> -CTH	33
Main phospholipid (MPL) of <i>Thermoplasma acidophilum</i> ,		<i>lyso</i> -Globotriaosylsphingosine	33
(>95% pure)	53	N-(1-Adamantaneacetyl)-ceramide trihexoside	34
		N-Adamantyl-globotriaosylceramide	34
<b>Biochemical Research Standard Mixtures</b>		N-C12:0-NBD-CTH	34
Non-Polar Lipid Mixture A	95	N-C12:0-NBD-Globotriaosylceramide	34
Non-Polar Lipid Mixture B	95	N-C16:0-Ceramide trihexoside	33
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Sphingolipid Mixture	95	N-C18:0-CD <sub>3</sub> -CTH	34
		N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub>	34
<b>Biotin Labeled Standards</b>		N-C18:0-Ceramide trihexoside	34
Biotin-C6:0-GD <sub>3</sub>	103	N-C23:0-Ceramide trihexoside	34
Biotin-C6:0-GM <sub>1</sub>	103	N-Dodecanoyl-NBD-ceramide trihexoside	34
N-C6:0-biotin- <i>beta</i> -D-Galactosylsphingosine	102	N-Glycinated globotriaosylsphingosine	33
N-C6:0-biotin- <i>beta</i> -D-Glucosylsphingosine	102	N-Glycinated <i>lyso</i> -ceramide trihexoside	33
N-C6:0-biotin- <i>beta</i> -D-Lactosylceramide	102	N-Heptadecanoyl globotriaosylceramide	34
N-C6:0-biotin-Cerebroside	102	N-Heptadecanoyl-ceramide trihexoside	34
N-C6:0-biotin-D- <i>erythro</i> -Ceramide	102	N-Hexadecanoyl globotriaosylceramide	33
N-C6:0-biotin-Glucosylceramide	102	N-Hexadecanoyl-ceramide trihexoside	33
N-C6:0-biotin-Phytoceramide	102	N-Octadecanoyl globotriaosylceramide	34
N-C6:0-biotin-Sulfatide	102	N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide	34
N-Hexanoyl-biotin-D- <i>erythro</i> -sphingosine	102	N-Octadecanoyl-ceramide trihexoside	34
N-Hexanoyl-biotin-disialoganglioside GD <sub>3</sub>	103		

N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-ceramide trihexoside	34	N-Octadecenoyl-( <i>cis</i> -9)-D- <i>erythro</i> -sphingosine	9
N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	34	N-Octanoyl-D- <i>erythro</i> -sphingosine	8
N-Tricosanoyl globotriaosylceramide	34	N-Octanoyl-D- <i>threo</i> -sphingosine	8
N-Tricosanoyl-ceramide trihexoside	34	N-Octanoyl-L- <i>threo</i> -sphingosine	8
		N-Oleoyl-D- <i>erythro</i> -sphingosine	9
<b>Ceramides</b>		N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-D- <i>erythro</i> -sphingosine	9
Ceramide EOP	10	N- <i>omega</i> -Hydroxy-C30:0-D- <i>erythro</i> -ceramide	10
Ceramide EOS	10	N- <i>omega</i> -Hydroxytriacontanoyl-D- <i>erythro</i> -sphingosine	10
Ceramides (hydroxy)	14	N-Palmitoyl-D- <i>erythro</i> -C16-sphingosine)	12
Ceramides (mixture)	14	N-Palmitoyl-D- <i>erythro</i> -sphingosine	8
Ceramides (non-hydroxy)	14	N-Pentadecanoyl-D- <i>erythro</i> -sphingosine	8
Ceramides with hydroxy and non-hydroxy acyl groups	14	N-Stearoyl-CD <sub>3</sub> -D- <i>erythro</i> -sphingosine	9
Ceramides with mostly hydroxy acyl groups	14	N-Stearoyl-D- <i>erythro</i> -sphingosine	9
Ceramides with mostly non-hydroxy acyl groups	14	N-Stearoyl-D- <i>threo</i> -sphingosine	9
EOP Ceramide 9	10	N-Stearoyl-L- <i>erythro</i> -sphingosine	9
EOS Ceramide 1	10	N-Stearoyl-L- <i>threo</i> -sphingosine	9
EOS Ceramide, deuterated	10	N-Tetracosanoyl-D- <i>erythro</i> -sphingosine	10
N-(30-Linoleoyloxy-triacontanoyl)-phytosphingosine	10	N-Tetracosenoyl-( <i>cis</i> -15)-D- <i>erythro</i> -sphingosine	10
N-(30-Linoleoyloxy-triacontanoyl)-sphingosine	10	N-Triacontanoyl-D- <i>erythro</i> -sphingosine	10
N-(32-Linoleoyloxy-dotriacontanoyl)-sphingosine-D9	10	O-acylceramide, deuterated	10
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N-Acetyl-D- <i>erythro</i> -sphingosine (C14 sphingolipid base)	11	<b>Cholestane Derivatives</b>	
N-Acetyl-L- <i>erythro</i> -sphingosine	7	5- <i>alpha</i> -Cholestane	84
N-Acetyl-L- <i>threo</i> -sphingosine	7	5- <i>beta</i> -Cholestan-3- <i>beta</i> -ol	84
N-C10:0-D- <i>erythro</i> -Ceramide	8	Cholesterol	84
N-C12:0-D- <i>erythro</i> -Ceramide	8	Coprostanol	84
N-C15:0-D- <i>erythro</i> -Ceramide	8		
N-C16:0 Ceramide of D- <i>erythro</i> -C16-sphingosine	12	<b>Conjugated Linoleic Acid Isomers (CLA)</b>	
N-C16:0-D- <i>erythro</i> -Ceramide	8	10(E),12(Z)-Octadecadienoic acid	69
N-C17:0-D- <i>erythro</i> -Ceramide	9	9(E),11(E)-Octadecadienoic acid	69
N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Ceramide	9	9(Z),11(E)-Octadecadienoic acid	68
N-C18:0-D- <i>erythro</i> -Ceramide	9	9(Z),11(E)-Octadecadienoic acid (Na+ salt)	68
N-C18:0-D- <i>threo</i> -Ceramide	9	9(Z),11(Z)-Octadecadienoic acid	69
N-C18:0-L- <i>erythro</i> -Ceramide	9	<i>alpha</i> -Eleostearic acid methyl ester	70
N-C18:0-L- <i>threo</i> -Ceramide	9	CLnA	69, 70
N-C18:1-D- <i>erythro</i> -Ceramide	9	Conjugated linolenic acid methyl ester	69, 70
N-C19:0-D- <i>erythro</i> -Ceramide	9	Jacaric acid methyl ester	70
N-C2:0 Ceramide of D- <i>erythro</i> -C14-sphingosine	11	Methyl 10(E),12(Z)-octadecadienoate	69
N-C2:0-D- <i>erythro</i> -Ceramide	7	Methyl 8(Z),10(E),12(Z)-octadecatrienoate	70
N-C2:0-L- <i>erythro</i> -Ceramide	7	Methyl 9(E),11(E)-octadecadienoate	69
N-C2:0-L- <i>threo</i> -Ceramide	7	Methyl 9(Z),11(E),13(E)-Octadecatrienoate	70
N-C24:0-D- <i>erythro</i> -Ceramide	10	Methyl 9(Z),11(E),13(Z)-octadecatrienoate	69
N-C30:0-D- <i>erythro</i> -Ceramide	10	Methyl 9(Z),11(E)-octadecadienoate	68
N-C32:0-D- <i>erythro</i> -Ceramide	10	Methyl 9(Z),11(Z)-octadecadienoate	69
N-C6:0-biotin-D- <i>erythro</i> -Ceramide	11	Methyl <i>alpha</i> -eleostearate	70
N-C6:0-D- <i>erythro</i> -Ceramide	7	Methyl jacarate	70
N-C6:0-D- <i>threo</i> -Ceramide	8	Methyl punicate	69
N-C6:0-L- <i>erythro</i> -Ceramide	7		
N-C6:0-L- <i>threo</i> -Ceramide	7	<b>Cyclopropyl Fatty Acids &amp; Methyl Esters</b>	
N-C8:0-D- <i>erythro</i> -Ceramide	8	2-Octyl-1-cyclopropene-1-octanoic acid	80
N-C8:0-D- <i>threo</i> -Ceramide	8	9,10-Methylene-octadec-9-enoic acid	80
N-C8:0-L- <i>threo</i> -Ceramide	8	<i>cis</i> -9,10-Methyleneoctadecanoic acid)	80
N- <i>cis</i> -15-C24:1-D- <i>erythro</i> -Ceramide	10	Dihydrosterculic acid	80
N-Decanoyl-D- <i>erythro</i> -sphingosine	8	Methyl 2-octyl-1-cyclopropene-1-heptanoate	80
N-Dodecanoyl-D- <i>erythro</i> -sphingosine	8	Methyl 2-octyl-1-cyclopropene-1-octanoate	80
N-Dotriacontanoyl-D- <i>erythro</i> -sphingosine	10	Methyl 8,9-methylene-heptadec-8Z-enoate	80
N-Heptadecanoyl-D- <i>erythro</i> -sphingosine	9	Methyl 9,10-methyleneoctadec-9-enoate	80
N-Hexadecanoyl-D- <i>erythro</i> -sphingosine	8	Methyl <i>cis</i> -9,10-methyleneoctadecanoate	80
N-Hexadecanoyl-D- <i>erythro</i> -sphingosine (C16 sphingolipid base)	12	Methyl dihydrosterculate	80
N-Hexanoyl-biotin-D- <i>erythro</i> -sphingosine	11	Methyl malvalate	80
N-Hexanoyl-D- <i>erythro</i> -sphingosine	7	Methyl sterulate	80
N-Hexanoyl-D- <i>threo</i> -sphingosine	8	Sterculic acid	80
N-Hexanoyl-L- <i>erythro</i> -sphingosine	7		
N-Hexanoyl-L- <i>threo</i> -sphingosine	7	<b>Dihydroceramides</b>	
N-Lignoceroyl-D- <i>erythro</i> -sphingosine	10	N-Acetyl-D- <i>erythro</i> -dihydrosphingosine	12
N-Nervonoyl-D- <i>erythro</i> -sphingosine	10	N-Acetyl-D- <i>erythro</i> -sphinganine	12
N-Nonadecanoyl-D- <i>erythro</i> -sphingosine	9	N-C16:0-D- <i>erythro</i> -Dihydroceramide	12
N-Octadecanoyl-D- <i>erythro</i> -sphingosine	9	N-C17:0-D- <i>erythro</i> -Dihydroceramide	12
N-Octadecanoyl-D- <i>threo</i> -sphingosine	9	N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Dihydroceramide	13
N-Octadecanoyl-L- <i>erythro</i> -sphingosine	9	N-C18:0-D- <i>erythro</i> -Dihydroceramide	13
N-Octadecanoyl-L- <i>threo</i> -sphingosine	9	N-C2:0-D- <i>erythro</i> -Dihydroceramide	12
		N-C24:0-D- <i>erythro</i> -Dihydroceramide	13



N-Hexanoyl-NBD-lactosylceramide	37	C20 Quantitative mixture	87
N-Hexanoyl-NBD-L- <i>threo</i> -dihydrosphingosine	17	FIM-FAME-6 Mixture	86
N-Hexanoyl-NBD-L- <i>threo</i> -sphingosine	17	FIM-FAME-7 Mixture	86
N-Hexanoyl-NBD-phytosphingosine	18	FIM-FAME-8 Mixture	86
N-Hexanoyl-NBD-sphingosylphosphorylcholine	22	FIM-FAME-9 Mixture	87
Sulforhodamine B-C12:0 cerebroside	37	KEL-FIM-FAME-5 Mixture	86
<b>Fluorescent Standards</b>			
Lissamine-rhodamine B-dodecanoyl-galactosylceramide	101	<b>Galactosylceramides</b>	
N-(NBD-Aminocaproyl)-D-galactosylsphingosine	100	1- <i>beta</i> -D-Galactosylsphingosine (free amine form)	24
N-C12:0-NBD- <i>beta</i> -D-Galactosylsphingosine	101	1- <i>beta</i> -D-Galactosylsphingosine, synthetic	24
N-C12:0-NBD- <i>beta</i> -D-Lactosylsphingosine	101	Ceramide <i>beta</i> -D-galactoside	23
N-C12:0-NBD-Ceramide	99	Cerebroside; Kerasin (top spot)	23
N-C12:0-NBD-Cerebroside	101	Cerebroside; Phrenosin (bottom spot)	23
N-C12:0-NBD-CTH	101	Cerebrosides, bovine	23
N-C12:0-NBD-D- <i>erythro</i> -Dihydrosphingosine	100	Galactosylceramide	23
N-C12:0-NBD-D- <i>erythro</i> -Sphingosine	99	Galactosylceramide with	
N-C12:0-NBD-Dihydroceramide	99, 100	mostly 2-hydroxy fatty acid side chains	23
N-C12:0-NBD-Globotriaosylceramide	101	Galactosylceramide with	
N-C12:0-NBD-Lactosylceramide	101	mostly non-hydroxy fatty acid side chain	23
N-C12:0-NBD-L- <i>threo</i> -Dihydrosphingosine	99	Lissamine-rhodamine B-dodecanoyl-galactosylceramide	25
N-C12:0-NBD-L- <i>threo</i> -Sphingosine, fluorescent	99	<i>lyso</i> -Cerebroside (free amine form)	24
N-C12:0-NBD-Phytoceramide	100	<i>lyso</i> -Cerebroside, synthetic	24
N-C12:0-NBD-Phytosphingosine	100	N-(1-Adamantaneacetyl)-galactocerebroside	25
N-C12:0-NBD-Sphingomyelin	100	N-(1-Adamantaneacetyl)-galactosylceramide	25
N-C12:0-NBD-Sphingosylphosphorylcholine	100	N-(NBD-Aminocaproyl)-D-galactosylsphingosine	25
N-C12:0-NBD-Sulfatide	101	N-Acetyl-psychosine	24
N-C6:0-NBD- <i>beta</i> -D-Galactosylsphingosine	100	N-C12:0-Galactosylceramide	24
N-C6:0-NBD- <i>beta</i> -D-Glucosylsphingosine	101	N-C12:0-NBD- <i>beta</i> -D-Galactosylsphingosine	25
N-C6:0-NBD- <i>beta</i> -D-Lactosylsphingosine	101	N-C12:0-NBD-Cerebroside	25
N-C6:0-NBD-Ceramide	99	N-C15:0-Cerebroside	24
N-C6:0-NBD-Cerebroside	100	N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated	25
N-C6:0-NBD-D- <i>erythro</i> -Dihydrosphingosine	100	N-C2:0-Cerebroside	24
N-C6:0-NBD-D- <i>erythro</i> -Sphingosine	99	N-C6:0-biotin- <i>beta</i> -D-galactosylsphingosine	25
N-C6:0-NBD-Dihydroceramide	99, 100	N-C6:0-biotin-Cerebroside	25
N-C6:0-NBD-Galactosylceramide, fluorescent	100	N-C6:0-NBD- <i>beta</i> -D-Galactosylsphingosine	25
N-C6:0-NBD-Glucosylceramide, fluorescent	101	N-C6:0-NBD-Cerebroside	25
N-C6:0-NBD-Lactosylceramide	101	N-C6:0-NBD-Galactosylceramide, fluorescent	25
N-C6:0-NBD-L- <i>threo</i> -Dihydrosphingosine	99	N-C8:0-Galactosylceramide	24
N-C6:0-NBD-L- <i>threo</i> -Sphingosine	99	N-Dodecanoyl- <i>beta</i> -D-galactosylceramide	24
N-C6:0-NBD-Phytoceramide	100	N-Dodecanoyl- <i>beta</i> -D-galactosylsphingosine	24
N-C6:0-NBD-Phytosphingosine	100	N-Dodecanoyl-NBD-galactosylceramide	25
N-C6:0-NBD-Sphingomyelin	100	N-Glycinated cerebroside	24
N-C6:0-NBD-Sphingosylphosphorylcholine	100	N-Glycinated galactosylceramide	24
N-Dodecanoyl-NBD- <i>beta</i> -D-lactosylsphingosine	101	N-Glycinated galactosylsphingosine	24
N-Dodecanoyl-NBD-ceramide trihexoside	101	N-Glycinated psychosine	24
N-Dodecanoyl-NBD-D- <i>erythro</i> -dihydrosphingosine	100	N-Hexanoyl-biotin-galactosylceramide	25
N-Dodecanoyl-NBD-D- <i>erythro</i> -sphingosine	99	N-Hexanoyl-NBD-galactosylceramide	25
N-Dodecanoyl-NBD-galactosylceramide	101	N-Octadecanoyl-D <sub>35</sub> -psychosine,	
N-Dodecanoyl-NBD-lactosylceramide	101	(perdeuterated, C18:0 fatty acid)	25
N-Dodecanoyl-NBD-L- <i>threo</i> -dihydrosphingosine	99	N-Octanoyl- <i>beta</i> -D-galactosylceramide	24
N-Dodecanoyl-NBD-L- <i>threo</i> -sphingosine	99	N-Pentadecanoyl-psychosine	24
N-Dodecanoyl-NBD- <i>lyso</i> -sulfatide	101	N-Stearoyl-D <sub>35</sub> -psychosine, perdeuterated	25
N-Dodecanoyl-NBD-phytosphingosine	100	Psychosine (free amine form)	24
N-Dodecanoyl-NBD-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	101	Psychosine, synthetic	24
N-Dodecanoyl-NBD-sphingosylphosphorylcholine	100	Sulforhodamine B-C12:0 cerebroside	25
N-Dodecanoyl-NBD-sulfatide	101		
N-Hexanoyl-NBD- <i>beta</i> -D-lactosylsphingosine	101	<b>Gangliosides</b>	
N-Hexanoyl-NBD-D- <i>erythro</i> -dihydrosphingosine	100	Asialo GM <sub>1</sub>	38
N-Hexanoyl-NBD-D- <i>erythro</i> -sphingosine	99	Asialo GM <sub>2</sub>	38
N-Hexanoyl-NBD-galactosylceramide	100	Biotin-C6 0-GD <sub>3</sub>	41
N-Hexanoyl-NBD-glucosylceramide	101	Biotin-C6 0-GM <sub>1</sub>	39
N-Hexanoyl-NBD-lactosylceramide	101	Disialoganglioside GD <sub>1a</sub>	40
N-Hexanoyl-NBD-L- <i>threo</i> -dihydrosphingosine	99	Disialoganglioside GD <sub>1b</sub>	40
N-Hexanoyl-NBD-L- <i>threo</i> -sphingosine	99	Disialoganglioside GD <sub>2</sub>	40
N-Hexanoyl-NBD-phytosphingosine	100	Disialoganglioside GD <sub>3</sub>	40
N-Hexanoyl-NBD-sphingosylphosphorylcholine	100	Fucosyl GM <sub>1</sub>	39
Sulforhodamine B-C12:0 cerebroside	101	Fucosylated monosialoganglioside GM <sub>1</sub>	39
		Gangliotetraosylceramide	38
		Gangliotriaosylceramide	38
		GD <sub>1a</sub>	40
		GD <sub>1b</sub>	40
		GD <sub>2</sub>	40
<b>Food Industry Mixtures</b>			
C18 Quantitative mixture	86		

GD <sub>3</sub>	40	<i>lyso</i> -Glucocerebroside, plant	27
Gg3	38	<i>lyso</i> -Glucocerebroside, synthetic	26
Gg4	38	N-(1-Adamantaneacetyl)-glucocerebroside	28
GM <sub>1</sub>	38	N-(1-Adamantaneacetyl)-glucosylceramide	28
GM <sub>2</sub>	39	N-C16:0-CD <sub>3</sub> -Glucocerebroside	27
GM <sub>3</sub>	39	N-C16:0-CD <sub>3</sub> -Glucopsychosine	27
GM <sub>4</sub>	40	N-C22:0-Glucocerebroside	27
GQ <sub>1b</sub>	41	N-C6:0-biotin- <i>beta</i> -D-Glucosylsphingosine	28
GT <sub>1b</sub>	41	N-C6:0-biotin-Glucosylceramide	28
<i>lyso</i> -GM <sub>1</sub>	38	N-C6:0-Glucocerebroside	27
<i>lyso</i> -Monosialoganglioside GM <sub>1</sub>	38	N-C6:0-NBD- <i>beta</i> -D-Glucosylsphingosine	28
Mixed Gangliosides, purified, bovine	41, 95	N-C6:0-NBD-Glucosylceramide, fluorescent	28
Mixed Gangliosides, purified, porcine	41, 95	N-Docosanoyl- <i>beta</i> -glucosylsphingosine	27
Monosialoganglioside GM <sub>1</sub>	38	N-Docosanoyl-glucopsychosine	27
Monosialoganglioside GM <sub>2</sub>	39	N-Glycinated 1- <i>beta</i> -D- <i>lyso</i> -glucosylceramide	27
Monosialoganglioside GM <sub>3</sub>	39	N-Glycinated glucosylsphingosine	27
Monosialoganglioside GM <sub>4</sub>	40	N-Glycine glucopsychosine	27
N-CD <sub>3</sub> -Stearoyl GD <sub>3</sub>	40	N-Hexanoyl- <i>beta</i> -D-glucosylsphingosine	27
N-CD <sub>3</sub> -Stearoyl GM <sub>1</sub>	39	N-Hexanoyl-biotin-glucosylceramide	28
N-CD <sub>3</sub> -Stearoyl GM <sub>2</sub>	39	N-Hexanoyl-glucosylceramide	27
N-CD <sub>3</sub> -Stearoyl GM <sub>3</sub>	39	N-Hexanoyl-NBD-glucosylceramide	28
N-Hexanoyl-biotin-disialoganglioside GD <sub>3</sub>	41	N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-glucopsychosine	27
N-Hexanoyl-biotin-monosialoganglioside GM <sub>1</sub>	39	N-Palmitoyl-CD <sub>3</sub> -glucopsychosine	27
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl disialoganglioside GD <sub>3</sub>	40		
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>1</sub>	39	<b>Glycosphingolipid Reference Mixtures for TLC</b>	
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>2</sub>	39	Disialoganglioside Mixture	42, 96
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>3</sub>	39	Gangliotetraosylceramide and Sialosyl Derivatives Mixture	42, 96
Tetrasialoganglioside GQ <sub>1b</sub>	41	Lactosylceramide and Sialosyl Derivatives Mixture	42, 96
Trisialoganglioside GT <sub>1b</sub>	41	Monosialoganglioside Mixture	41, 95
		Neutral Glycosphingolipid Mixture	41, 95
<b>GLC Standard Mixtures</b>			
GLC-10 Mixture	92		
GLC-100 Mixture	93	<b>Glycosyl Glycerides</b>	
GLC-30 Mixture	92	DGDG (hydrogenated), plant	54
GLC-40 Mixture	92	Digalactosyldiglyceride (hydrogenated), plant	54
GLC-50 Mixture	93	MGDG (hydrogenated), plant	53
GLC-60 Mixture	93	Monogalactosyldiglyceride (hydrogenated), plant	53
GLC-70 Mixture	93		
GLC-80 Mixture	93	<b>Labeled Glycolipids</b>	
GLC-90 Mixture	93	1-( <i>beta</i> -D-Glucosyl-1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )-sphingosine	35
		<sup>13</sup> C <sub>6</sub> -Glucosylsphingosine	35
<b>Globosides</b>		<sup>13</sup> C <sub>6</sub> - <i>lyso</i> -Glucocerebroside	35
Gb <sub>4</sub>	35	N-C16:0-CD <sub>3</sub> -Glucocerebroside	35
Globosides	35	N-C16:0-CD <sub>3</sub> -Glucopsychosine	35
Globotetrahexosylceramide	35	N-C16:0-CD <sub>3</sub> -Lactosylceramide	36
<i>lyso</i> -Gb <sub>4</sub>	35	N-C18:0-CD <sub>3</sub> -CTH	36
<i>lyso</i> -Globoside	35	N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub>	36
<i>lyso</i> -Globotetrahexosylceramide	35	N-C18:0-CD <sub>3</sub> -Sulfatide	36
		N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated	35
<b>Glucosylceramides</b>		N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide	36
1-( <i>beta</i> -D-Glucosyl-1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )-sphingosine	26, 35	N-Octadecanoyl-D <sub>35</sub> -psychosine,	
<sup>13</sup> C <sub>6</sub> -Glucosylsphingosine	26, 35	(perdeuterated, C18:0 fatty acid)	35
<sup>13</sup> C <sub>6</sub> - <i>lyso</i> -Glucocerebroside	26, 35	N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-glucopsychosine	35
1- <i>beta</i> -D-Glucosylsphingadienine, plant	27	N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-lactosylceramide	36
1- <i>beta</i> -D-Glucosylsphingosine, buttermilk	27	N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-ceramide trihexoside	36
1- <i>beta</i> -D-Glucosylsphingosine, synthetic	26	N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-sulfatide	36
Ceramide <i>beta</i> -D-glucoside, buttermilk	26	N-Palmitoyl-CD <sub>3</sub> -glucopsychosine	35
Ceramide <i>beta</i> -D-glucoside, Gaucher's spleen	26	N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	36
Ceramide <i>beta</i> -D-glucoside, plant	26	N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	36
Glucocerebroside, buttermilk	26	N-Stearoyl-CD <sub>3</sub> -sulfatide	36
Glucocerebroside, Gaucher's spleen	26	N-Stearoyl-D <sub>35</sub> -psychosine, perdeuterated	35
Glucocerebroside, plant	26		
Glucopsychosine, buttermilk	27	<b>Lactosylceramides</b>	
Glucopsychosine, plant	27	1- <i>beta</i> -Lactosyl-sphing-4-enine, synthetic	31
Glucosylceramide, buttermilk	26	CDH, bovine buttermilk	31
Glucosylceramide, Gaucher's spleen	26	CDH, porcine RBC	31
Glucosylceramide, plant	26	Ceramide <i>beta</i> -lactoside, bovine buttermilk	31
Glucosylpsychosine, synthetic	26	Ceramide <i>beta</i> -lactoside, porcine RBC	31
Glucosylsphingosine, buttermilk	27	Lactocerebroside, bovine buttermilk	31
Glucosylsphingosine, plant	27	Lactocerebroside, porcine RBC	31
Glucosylsphingosine, synthetic	26	Lactosylceramide with C17:0 fatty acid side chain	32
<i>lyso</i> -Glucocerebroside, buttermilk	27	Lactosylceramides, bovine buttermilk	31

Lactosylceramides, porcine RBC	31	22-Hydroxydocosanoic acid	77
Lactosylsphingosine, bovine buttermilk	31	Methyl 15-hydroxypentadecanoate	76
Lactosylsphingosine, synthetic	31	Methyl 17-hydroxyheptadecanoate	76
LC, bovine buttermilk	31	Methyl 20-hydroxyeicosanoate	76
LC, porcine RBC	31	Methyl 21-hydroxyheneicosanoate	77
<i>lyso</i> -Lactosylceramide, bovine buttermilk	31	Methyl 22-hydroxydocosanoate	77
<i>lyso</i> -Lactosylceramide, synthetic	31	Methyl 27-hydroxyheptacosanoate	77
<i>lyso</i> -LC, bovine buttermilk	31	Methyl 30-hydroxytriacontanoate	77
<i>lyso</i> -LC, synthetic	31	<i>omega</i> - Hydroxy C15:0 methyl ester	76
N-C12:0-NBD- <i>beta</i> -D-Lactosylsphingosine	32	<i>omega</i> - Hydroxy C17:0 methyl ester	76
N-C12:0-NBD-Lactosylceramide	32	<i>omega</i> - Hydroxy C20:0 methyl ester	76
N-C16:0-CD <sub>3</sub> -Lactosylceramide	32	<i>omega</i> - Hydroxy C21:0 methyl ester	77
N-C16:0-Lactosylceramide	31	<i>omega</i> - Hydroxy C22:0 methyl ester	77
N-C17:0-Lactosylceramide	32	<i>omega</i> - Hydroxy C27:0 methyl ester	77
N-C6:0-biotin- <i>beta</i> -D-Lactosylceramide	32	<i>omega</i> - Hydroxy C30:0 methyl ester	77
N-C6:0-NBD- <i>beta</i> -D-Lactosylsphingosine	32	<i>omega</i> -Hydroxy C10:1 (2- <i>trans</i> ) fatty acid	76
N-C6:0-NBD-Lactosylceramide	32	<i>omega</i> -Hydroxy C15:0 fatty acid	76
N-Dodecanoyl-NBD- <i>beta</i> -D-lactosylsphingosine	32	<i>omega</i> -Hydroxy C17:0 fatty acid	76
N-Dodecanoyl-NBD-lactosylceramide	32	<i>omega</i> -Hydroxy C20:0 fatty acid	76
N-Glycinated lactosylsphingosine	31	<i>omega</i> -Hydroxy C22:0 fatty acid	77
N-Glycinated <i>lyso</i> -lactosylceramide	31	Royal Jelly acid	76
N-Glycine 1- <i>beta</i> -lactosyl-sphing-4-enine	31		
N-Heptadecanoyl-lactosylceramide	32	<b>Other Branched Fatty Acids</b>	
N-Hexadecanoyl-lactosylceramide	31	10-Methyl C16:0 methyl ester	80
N-Hexanoyl-biotin-lactosylceramide	32	2,6-Dimethyl C7:0 fatty acid	79
N-Hexanoyl-NBD- <i>beta</i> -D-lactosylsphingosine	32	3,7,11,15-Tetramethylhexadecanoic acid	80
N-Hexanoyl-NBD-lactosylceramide	32	D,L-2,6-Dimethylheptanoic acid	79
N-Octadecanoyl-lactosylceramide sulfatide	32	Methyl 10-methylhexadecanoate	80
N-Octadecanoyl-lactosylceramide-3'-sulfate	32	Phytanic acid	80
N-Octadecanoyl-sulfated-lactosylceramide	32		
N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-lactosylceramide	32	<b>Other Fatty Acid Methyl Ester Mixtures</b>	
N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	32	2-Hydroxy Methyl Ester Mixture	88
N-Palmitoyl-lactosylceramide	31	C24:0, C26:0, C28:0, C30:0, C32:0	
SM3	32	Fatty acid methyl ester mixture	88
		<i>Cis-Trans</i> FAME Isomer Standard Mixture	88
		Long Chain Fatty Acid Methyl Ester Mixture	88
<b>Microbiology Standard Mixtures</b>			
Bacterial Acid Methyl Esters CP Mixture	94	<b>Phosphates</b>	
Bacterial lipid standard, qualitative mixture	94	D- <i>erythro</i> -Dihydrosphingosine-1-phosphate	21
GLC-110 Mixture	94	D- <i>erythro</i> -Sphingosine-1-phosphate	21
Non-Volatile Acid Mixture	94	N-C16:0-Ceramide-1-phosphate	21
Volatile Acid Mixture	94	N-C18:0-CD <sub>3</sub> -Ceramide-1-phosphate	22
		N-Hexadecanoyl-D- <i>erythro</i> -sphingosine-1-phosphate	21
<b>Natural Phospholipids</b>		N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-D- <i>erythro</i> -sphingosine-1-phosphate	22
Lecithin, bovine	48	N-Stearoyl-CD <sub>3</sub> -C1P	22
Lecithin, egg	47	S-1-P	21
<i>lyso</i> -Lecithin, egg	48		
<i>lyso</i> -Phosphatidylcholine, egg	48	<b>Phosphatidic Acid Derivatives</b>	
PA, egg	48	1,2-Dimyristoyl-sn-glycero-3-phosphatidic acid	49
PC, bovine	48	1,2-Dipalmitoyl-sn-glycero-3-phosphatidic acid	50
PC, egg	47	1,2-Distearoyl-sn-glycero-3-phosphatidic acid	50
PE, bovine	49	DMPA	49
PE, egg	49	DPPA	50
PE, plant	49	DSPA	50
Phosphatidic acid, egg	48		
Phosphatidylcholine, bovine	48	<b>Phosphatidylcholines</b>	
Phosphatidylcholine, egg	47	1,2-Diheptadecanoyl-sn-glycero-3-phosphorylcholine	50
Phosphatidylethanolamine, bovine	49	1,2-Dilauroyl-sn-glycero-3-phosphorylcholine	50
Phosphatidylethanolamine, egg	49	1,2-Dimyristoyl-sn-glycero-3-phosphorylcholine	50
Phosphatidylethanolamine, plant	49	1,2-Dipalmitoyl-sn-glycero-3-phosphorylcholine	50
Phosphatidylinositol, plant, soy	48	1,2-Distearoyl-sn-glycero-3-phosphorylcholine	51
Phosphatidylinositol, plant, wheat germ	48	1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylcholine	51
Phosphatidylserine, bovine	48	1-Palmitoyl-sn-glycero-3-phosphorylcholine	51
PI, plant, soy	48	DHDPC	50
PI, plant, wheat germ	48	DLPC	50
PS, bovine	48	DMPC	50
		DPPC	50
<b>Omega Hydroxy Fatty Acids</b>		DSPC	51
10-HDA	76	<i>lyso</i> -PPC	51
10-Hydroxy-2-(E)-decenoic acid	76	POPC	51
15-Hydroxypentadecanoic acid	76		
17-Hydroxyheptadecanoic acid	76		
20-Hydroxyeicosanoic acid	76		

<b>Phosphatidylethanolamines</b>			
1,2-Dilauroyl-sn-glycero-3-phosphorylethanolamine	52	N-C6:0-biotin-Phytoceramide	16
1,2-Dimyristoyl-sn-glycero-3-phosphorylethanolamine	52	N-C6:0-Phytoceramide	15
1,2-Dipalmitoyl-sn-glycero-3-phosphorylethanolamine	52	N-C8:0-Phytoceramide	15
1,2-Distearoyl-phosphatidylethanolamine-methyl-polyethyleneglycol conjugate-2000	53	N-Hexadecanoyl-phytosphingosine	15
1,2-Distearoyl-sn-glycero-3-phosphorylethanolamine	52	N-Hexanoyl-biotin-phytosphingosine	16
DLPE	52	N-Hexanoyl-phytosphingosine	15
DMPE	52	N-Lignoceroyl-phytosphingosine	16
DPPE	52	N-Octadecanoyl-phytosphingosine	15
DSPE	52	N-Octanoyl-phytosphingosine	15
DSPE-MPEG-2000	53	N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-phytosphingosine	16
		N-Palmitoyl-phytosphingosine	15
		N-Stearoyl-CD <sub>3</sub> -phytosphingosine	16
		N-Stearoyl-phytosphingosine	15
		N-Tetracosanoyl-phytosphingosine	16
<b>Phosphatidylglycerols</b>		<b>Phytosphingosines</b>	
1,2-Dilauroyl-sn-glycero-3-phosphorylglycerol	51	4-Hydroxysphinganine	5
1,2-Dimyristoyl-sn-glycero-3-phosphorylglycerol	51	Phytosphingosine	5
1,2-Dipalmitoyl-sn-glycero-3-phosphorylglycerol	51		
1,2-Distearoyl-sn-glycero-3-phosphorylglycerol	52	<b>Plant Sterols &amp; Steryl Glucosides</b>	
1-Palmitoyl-2-oleoyl-sn-glycero-3-phosphorylglycerol	52	5,22-Cholestadien-24- <i>beta</i> -ethyl-3- <i>beta</i> -ol	85
DLPG	51	<i>beta</i> -Sitostanol	85
DMPG	51	Ergosterol	85
DPPG	51	Esterified Sterolins	85
DSPG	52	Esterified Steryl Glucosides	85
POPG	52	Lanosterol	85
		Plant Sterol Mixture	84
<b>Phosphosphingolipids</b>		Plant Sterols Kit	84
Ceramide phosphorylethanolamine	20	Sterolins	85
Ceramide-1-phosphorylcholine, bovine	18	Steryl Glucosides	85
Ceramide-1-phosphorylcholine, buttermilk	19	Stigmastanol	85
Ceramide-1-phosphorylcholine, egg	19	Stigmasterol	85
Ceramide-1-phosphorylcholine, porcine RBC	19		
D- <i>erythro</i> -Sphingomyelin with 1- <sup>13</sup> C-palmitic acid	20	<b>Polyunsaturated Fatty Acid Methyl Ester Mixtures</b>	
N-1- <sup>13</sup> C-Hexadecanoyl-D- <i>erythro</i> -sphingosylphosphorylcholine	20	PUFA-1	87
N-1- <sup>13</sup> C-Palmitoyl-sphingosylphosphorylcholine	20	PUFA-2	87
N-Acetyl-sphingosylphosphorylcholine	19	PUFA-3	87
N-Acyl-D- <i>erythro</i> -sphingosylphosphorylethanolamine	20		
N-C17:0-Sphingomyelin	19	<b>Saturated Fatty Acids &amp; Methyl Esters</b>	
N-C18:0-Sphingomyelin	19	Arachidic acid	57
N-C2:0-Sphingomyelin	19	Behenic acid	58
N-C20:0-Sphingomyelin	20	C10:0 Methyl ester	55
N-C22:0-Sphingomyelin	20	C11:0 Fatty acid	55
N-Docosanoyl-D- <i>erythro</i> -sphingosylphosphorylcholine	20	C11:0 Methyl ester	55
N-Eicosanoyl-D- <i>erythro</i> -sphingosylphosphorylcholine	20	C12:0 Fatty acid	55
N-Heptadecanoyl-sphingosylphosphorylcholine	19	C12:0 Methyl ester	55
N-Octadecanoyl-sphingosylphosphorylcholine	19	C13:0 Fatty acid	55
N-Stearoyl-sphingosylphosphorylcholine	19	C13:0 Methyl ester	56
Sphingomyelin, bovine	18	C14:0 Fatty acid	56
Sphingomyelin, buttermilk	19	C14:0 Methyl ester	56
Sphingomyelin, egg	19	C15:0 Fatty acid	56
Sphingomyelin, porcine RBC	19	C15:0 Methyl ester	56
SPM, bovine	18	C16:0 Fatty acid	56
SPM, buttermilk	19	C16:0 Methyl ester	56
SPM, egg	19	C17:0 Fatty acid	56
SPM, porcine RBC	19	C17:0 Methyl ester	57
		C18:0 Fatty acid	57
<b>Phytoceramides</b>		C18:0 Methyl ester	57
Ceramide EOP	16	C19:0 Fatty acid	57
EOP Ceramide 9	16	C19:0 Methyl ester	57
N-(30-Linoleoyloxy-triacontanoyl)-phytosphingosine	16	C20:0 Fatty acid	57
N-(R)- <i>alpha</i> -Hydroxy-C24:0-phytoceramide	16	C20:0 Methyl ester	57
N-(R)- <i>alpha</i> -Hydroxytetracosanoyl-phytosphingosine	16	C21:0 Fatty acid	57
N-(R)-Cerebronoyl-phytoceramide	16	C21:0 Methyl ester	58
N-(S)- <i>alpha</i> -Hydroxy-C24:0-phytoceramide	16	C22:0 Fatty acid	58
N-(S)- <i>alpha</i> -Hydroxytetracosanoyl-phytosphingosine	16	C22:0 Methyl ester	58
N-(S)-Cerebronoyl-phytoceramide	16	C23:0 Fatty acid	58
N-Acetyl-phytosphingosine	15	C23:0 Methyl ester	58
N-C16:0-Phytoceramide	15	C24:0 Fatty acid	58
N-C18:0-CD <sub>3</sub> -Phytoceramide	16	C24:0 Methyl ester	58
N-C18:0-Phytoceramide	15	C26:0 Fatty acid	58
N-C2:0-Phytoceramide	15	C26:0 Methyl ester	59
N-C24:0-Phytoceramide	16		



C28:0 Methyl ester	59	Tricosanoic acid	58
C30:0 Methyl ester	59	Tridecanoic acid	55
C32:0 Methyl ester	59	Undecanoic acid	55
C6:0 Methyl ester	54		
C7:0 Fatty acid	54	<b>Sphingosines</b>	
C7:0 Methyl ester	54	15,15,16,16,17,17,18,18,18-D9-2-Amino-	
C8:0 Fatty acid	54	octadec-4-ene-1,3-diol	2
C8:0 Methyl ester	54	D- <i>erythro</i> -C12-Sphingosine	2
C9:0 Fatty acid	55	D- <i>erythro</i> -C14-Sphingosine	2
C9:0 Methyl ester	55	D- <i>erythro</i> -C17-Sphingosine	3
Caprylic acid	54	D- <i>erythro</i> -C20-Sphingosine	3
Cerotic acid	58	D- <i>erythro</i> -Sphingosine	2
Docosanoic acid	58	D- <i>erythro</i> -Sphingosine, D9	2
Dodecanoic acid	55	L- <i>erythro</i> -Sphingosine	2
Eicosanoic acid	57	L- <i>erythro</i> -Sphingosine, C18 chain	2
Heneicosanoic acid	57	L- <i>threo</i> -Sphingosine	2
Heptadecanoic acid	56	L- <i>threo</i> -Sphingosine, C18 chain	2
Heptanoic acid	54	N,N-Dihexyl-D- <i>erythro</i> -sphingosine	6
Hexacosanoic acid	58	N,N-Dimethyl-D- <i>erythro</i> -sphingosine	5
Hexadecanoic acid	56	Sphingosine with C12 chain	2
Lauric acid	55	Sphingosine with C14 chain	2
Lignoceric acid	58	Sphingosine with C17 chain	3
Margaric acid	56	Sphingosine with C18 chain	2
Methyl arachidate	57	Sphingosine with C20 chain	3
Methyl behenate	58	Sphingosine with tertiary amine group	6
Methyl caprate	55		
Methyl caproate	54	<b>Sphingosylphosphorylcholines</b>	
Methyl caprylate	54	D- <i>erythro</i> -SPC	20
Methyl cerotate	59	D- <i>erythro</i> -Sphingosylphosphorylcholine	20
Methyl decanoate	55	Dihydrosphingosylphosphorylcholine	
Methyl docosanoate	58	(mixture of D- <i>erythro</i> and L- <i>threo</i> isomers)	21
Methyl dodecanoate	55	L- <i>threo</i> -SPC	21
Methyl dotriacontanoate	59	L- <i>threo</i> -Sphingosylphosphorylcholine	21
Methyl eicosanoate	57	<i>lyso</i> -Dihydrosphingomyelin	21
Methyl heneicosanoate	58	<i>lyso</i> -Sphingomyelin	21
Methyl heptadecanoate	57	SPC (mixture of D- <i>erythro</i> and L- <i>threo</i> isomers)	21
Methyl heptanoate	54	Sphingosylphosphorylcholine	21
Methyl hexacosanoate	59		
Methyl hexadecanoate	56	<b>Stable Isotope Labeled Standards</b>	
Methyl hexanoate	54	1-( <i>beta</i> -D-Glucosyl-1,2,3,4,5,6- <sup>13</sup> C <sub>6</sub> )-sphingosine	97
Methyl lacceroate	59	<sup>13</sup> C <sub>6</sub> -Glucosylsphingosine	97
Methyl laurate	55	<sup>13</sup> C <sub>6</sub> - <i>lyso</i> -Glucocerebroside	97
Methyl lignocerate	58	15,15,16,16,17,17,18,18,18-D9-2-Amino-	
Methyl margarate	57	octadec-4-ene-1,3-diol	96
Methyl melissate	59	C18 0-CD <sub>3</sub> -Ceramide-1-phosphate	97
Methyl montanate	59	D- <i>erythro</i> -Sphingomyelin with 1- <sup>13</sup> C-palmitic acid	97
Methyl myristate	56	D- <i>erythro</i> -Sphingosine, D9	96
Methyl nonadecanoate	57	EOS Ceramide, deuterated	96
Methyl nonanoate	55	N-(32-Linoleoyloxy-dotriacontanoyl)-sphingosine-D9	96
Methyl octacosanoate	59	N-1- <sup>13</sup> C-Hexadecanoyl-D- <i>erythro</i> -	
Methyl octadecanoate	57	sphingosylphosphorylcholine	97
Methyl octanoate	54	N-1- <sup>13</sup> C-Palmitoyl-sphingosylphosphorylcholine	97
Methyl palmitate	56	N-C16:0-CD <sub>3</sub> -Glucocerebroside	97
Methyl pentadecanoate	56	N-C16:0-CD <sub>3</sub> -Glucopsychosine	97
Methyl stearate	57	N-C16:0-CD <sub>3</sub> -Lactosylceramide	98
Methyl tetracosanoate	58	N-C18:0-CD <sub>3</sub> -CTH	98
Methyl tetradecanoate	56	N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Ceramide	96
Methyl triacontanoate	59	N-C18:0-CD <sub>3</sub> -D- <i>erythro</i> -Dihydroceramide	96
Methyl tricosanoate	58	N-C18:0-CD <sub>3</sub> -Gb <sub>3</sub>	98
Methyl tridecanoate	56	N-C18:0-CD <sub>3</sub> -Phytoceramide	97
Methyl undecanoate	55	N-C18:0-CD <sub>3</sub> -Sulfatide	97
Myristic acid	56	N-C18:0-D <sub>35</sub> -Cerebroside, perdeuterated	97
Nonadecanoic acid	57	N-CD <sub>3</sub> -Stearoyl GD <sub>3</sub>	98
Nonanoic acid	55	N-CD <sub>3</sub> -Stearoyl GM <sub>1</sub>	98
Octadecanoic acid	57	N-CD <sub>3</sub> -Stearoyl GM <sub>2</sub>	98
Octanoic acid	54	N-CD <sub>3</sub> -Stearoyl GM <sub>3</sub>	98
Palmitic acid	56	N-Octadecanoyl-CD <sub>3</sub> -globotriaosylceramide	98
Pelargonic acid	55	N-Octadecanoyl-D <sub>35</sub> -psychosine,	
Pentadecanoic acid	56	(perdeuterated, C18:0 fatty acid)	97
Stearic acid	57	N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-glucopsychosine	97
Tetracosanoic acid	58	N- <i>omega</i> -CD <sub>3</sub> -Hexadecanoyl-lactosylceramide	98
Tetradecanoic acid	56	N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl disialoganglioside GD <sub>3</sub>	98

N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>1</sub>	98	N-Tetracosenoyl-( <i>cis</i> -15)-sulfatide	30
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>2</sub>	98	N-Tetracosenoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	30
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl monosialoganglioside GM <sub>3</sub>	98	SM3	30
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-ceramide trihexoside	98	Sphingosine-1-galactoside-3-sulfate	28
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-D- <i>erythro</i> -dihydrosphingosine	96	Sulfatides, bovine	28
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-D- <i>erythro</i> -sphingosine	96	<b>Tocopherols</b>	
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-D- <i>erythro</i> -sphingosine-1-phosphate	97	(+)- <i>delta</i> -Tocopherol	82
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-phytosphingosine	97	5,7,8-Trimethyltolcol	81
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-sulfatide	97	5,8-Dimethyltolcol	81
N-Palmitoyl-CD <sub>3</sub> -glucopsychosine	97	7,8-Dimethyltolcol	81
N-Palmitoyl-CD <sub>3</sub> -lactosylceramide	98	8-Methyltolcol	82
N-Stearoyl-CD <sub>3</sub> -C1P	97	<i>rac</i> -5,7-Dimethyltolcol	82
N-Stearoyl-CD <sub>3</sub> -ceramide trihexoside	98	<i>rac-alpha</i> -Tocopherol	81
N-Stearoyl-CD <sub>3</sub> -D- <i>erythro</i> -sphinganine	96	<i>rac-beta</i> -Tocopherol	81
N-Stearoyl-CD <sub>3</sub> -D- <i>erythro</i> -sphingosine	96	<i>rac-gamma</i> -Tocopherol	81
N-Stearoyl-CD <sub>3</sub> -phytosphingosine	97	<i>rac</i> -Tocol	82
N-Stearoyl-CD <sub>3</sub> -sulfatide	97	Tocol	82
N-Stearoyl-D <sub>35</sub> -psychosine, perdeuterated	97	<b>Tocotrienols</b>	
O-acylceramide, deuterated	96	[R-(E,E)]-3,4-Dihydro-2,5,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83
<b>Sulfatides</b>		[R-(E,E)]-3,4-Dihydro-2,7,8-trimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83
Ceramide-galactoside-3-sulfate, bovine	28	[R-(E,E)]-3,4-Dihydro-2,8-dimethyl-2-(4,8,12-trimethyl-3,7,11-tridecatrienyl)-2H-1-benzopyran-6-ol	83
Cerebroside sulfate, bovine	28	3,4-Dihydro-2,5,7,8-tetramethyl-2R-[(3E,7E)-4,8,12-trimethyl-3,7,11-tridecatrienyl]]-2H-1-benzopyran-6-ol	82
<i>lyso</i> -Sulfatide	28	<i>alpha</i> -Tocotrienol	82
N-Acetyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfatide	29	<i>beta</i> -Tocotrienol	83
N-Acetyl-sulfatide	29	<i>delta</i> -Tocotrienol	83
N-C12:0-NBD-Sulfatide	30	<i>gamma</i> -Tocotrienol	83
N-C12:0-Sulfatide	29	<b>Trans Fatty Acids &amp; Methyl Esters</b>	
N-C16:0-Sulfatide	29	C16:1 ( <i>trans</i> -9) Fatty acid	66
N-C17:0-Sulfatide	29	C16:1 ( <i>trans</i> -9) Methyl ester	66
N-C18:0-CD <sub>3</sub> -Sulfatide	30	C18:1 ( <i>trans</i> -11) Fatty acid	67
N-C18:0-Sulfatide	29	C18:1 ( <i>trans</i> -11) Methyl ester	67
N-C18:1-Sulfatide	29	C18:1 ( <i>trans</i> -9) Fatty acid	66
N-C19:0-Sulfatide	29	C18:1 ( <i>trans</i> -9) Methyl ester	66
N-C2:0-Sulfatide	29	C18:2 (all <i>trans</i> -9,12) Fatty acid	67
N-C24:0-Sulfatide	30	C18:2 (all <i>trans</i> -9,12) Methyl ester	67
N-C24:1-Sulfatide	30	<i>Cis-Trans</i> FAME Isomer Standard Mixture	67
N-C6:0-biotin-Sulfatide	30	Elaidic acid	66
N-Dodecanoyl-NBD- <i>lyso</i> -sulfatide	30	Hexadecenoic acid ( <i>trans</i> -9)	66
N-Dodecanoyl-NBD-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	30	Linoelaidic acid (all <i>trans</i> -9,12)	67
N-Dodecanoyl-NBD-sulfatide	30	Methyl elaidate	66
N-Dodecanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	Methyl hexadecenoate ( <i>trans</i> -9)	66
N-Dodecanoyl-sulfatide	29	Methyl linoelaidate	67
N-Glycinated <i>lyso</i> -sulfatide	28	Methyl octadecadienoate (all <i>trans</i> -9,12)	67
N-Glycinated sphingosine-1-galactoside-3-sulfate	28	Methyl octadecenoate ( <i>trans</i> -11)	67
N-Heptadecanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	Methyl octadecenoate ( <i>trans</i> -9)	66
N-Heptadecanoyl-sulfatide	29	Methyl palmitelaidate	66
N-Hexadecanoyl-sulfatide	29	Methyl <i>trans</i> -vaccenate	67
N-Hexanoyl-biotin-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	30	Octadecadienoic acid (all <i>trans</i> -9,12)	67
N-Hexanoyl-biotin-sulfatide	30	Octadecenoic acid ( <i>trans</i> -11)	67
N-Lignoceroyl-sulfatide	30	Octadecenoic acid ( <i>trans</i> -9)	66
N-Nervonyl-sulfatide	30	Palmitelaidic acid	66
N-Nonadecanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	<i>trans</i> -Vaccenic acid	67
N-Nonadecanoyl-sulfatide	29	<b>Unsaturated Fatty Acids &amp; Methyl Esters</b>	
N-Octadecanoyl-lactosylceramide sulfatide	30	10- <i>trans</i> , 12- <i>cis</i> CLA	69
N-Octadecanoyl-lactosylceramide-3'-sulfate	30	11-Hexadecenoic acid (92% <i>cis</i> , 8% <i>trans</i> )	60
N-Octadecanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	9- <i>cis</i> , 11- <i>cis</i> CLA	69
N-Octadecanoyl-sulfated-lactosylceramide	30	9- <i>cis</i> , 11- <i>trans</i> CLA	68
N-Octadecanoyl-sulfatide	29	9- <i>cis</i> , 11- <i>trans</i> CLA (Na <sup>+</sup> salt)	68
N-Octadecenoyl-( <i>cis</i> -9)-sulfatide	29	9- <i>trans</i> , 11- <i>trans</i> CLA	69
N-Octadecenoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	<i>alpha</i> -Eleostearic acid methyl ester	63
N- <i>omega</i> -CD <sub>3</sub> -Octadecanoyl-sulfatide	30	<i>alpha</i> -Linolenic acid	62
N-Palmitoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	29	Arachidonic acid (all <i>cis</i> -5,8,11,14)	64
N-Palmitoyl-sulfatide	29	C14:1 ( <i>cis</i> -9) Fatty acid	59
N-Stearoyl-CD <sub>3</sub> -sulfatide	30	C14:1 ( <i>cis</i> -9) Methyl ester	59
N-Tetracosanoyl-sphingosyl- <i>beta</i> -D-galactoside-3-sulfate	30		
N-Tetracosanoyl-sulfatide	30		

C15:1 ( <i>cis</i> -10) Fatty acid	59	Hexadecenoic acid ( <i>trans</i> -9)	60, 66
C15:1 ( <i>cis</i> -10) Methyl ester	60	Jacaric acid methyl ester	63
C16:1 ( <i>cis</i> -11/ <i>trans</i> -11) Fatty acid	60	Linoelaidic acid (all <i>trans</i> -9,12)	62, 67
C16:1 ( <i>cis</i> -6) Fatty acid	60	Linoleic acid	62
C16:1 ( <i>cis</i> -9) Fatty acid	60	Mead acid Methyl ester	64
C16:1 ( <i>cis</i> -9) Methyl ester	60	Methyl 8(Z),10(E),12(Z)-octadecatrienoate	63
C16:1 ( <i>trans</i> -9) Fatty acid	60, 66	Methyl 9(Z),11(E),13(E)-octadecatrienoate	63
C16:1 ( <i>trans</i> -9) Methyl ester	60, 66	Methyl 9(Z),11(E),13(Z)-octadecatrienoate	63
C17:1 ( <i>cis</i> -10) Fatty acid	60	Methyl <i>alpha</i> -eleostearate	63
C17:1 ( <i>cis</i> -10) Methyl ester	61	Methyl <i>alpha</i> -linolenate	62
C18:1 ( <i>cis</i> -11) Fatty acid	61	Methyl arachidonate	64
C18:1 ( <i>cis</i> -11) Methyl ester	61	Methyl <i>cis</i> -vaccenate	61
C18:1 ( <i>cis</i> -9) Fatty acid	61	Methyl docosahexaenoate (all <i>cis</i> -4,7,10,13,16,19)	66
C18:1 ( <i>cis</i> -9) Methyl ester	61	Methyl docosapentaenoate (all <i>cis</i> -7,10,13,16,19)	65
C18:1 ( <i>trans</i> -11) Fatty acid	61, 67	Methyl docosenoate ( <i>cis</i> -13)	65
C18:1 ( <i>trans</i> -11) Methyl ester	62, 67	Methyl eicosadienoate	64
C18:1 ( <i>trans</i> -9) Fatty acid	61, 66	Methyl eicosadienoate (all <i>cis</i> -11,14)	64
C18:1 ( <i>trans</i> -9) Methyl ester	61, 66	Methyl eicosapentaenoate (all <i>cis</i> -5,8,11,14,17)	65
C18:2 (all <i>cis</i> -9,12) Fatty acid	62	Methyl eicosatetraenoate (all <i>cis</i> -5,8,11,14)	64
C18:2 (all <i>cis</i> -9,12) Methyl ester	62	Methyl eicosatrienoate (all <i>cis</i> -5,8,11)	64
C18:2 (all <i>trans</i> -9,12) Fatty acid	62, 67	Methyl eicosatrienoate (all <i>cis</i> -8,11,14)	64
C18:2 (all <i>trans</i> -9,12) Methyl ester	62, 67	Methyl eicosenoate	64
C18:3 (all <i>cis</i> -6,9,12) Fatty acid	62	Methyl eicosenoate ( <i>cis</i> -11)	64
C18:3 (all <i>cis</i> -6,9,12) Methyl ester	63	Methyl elaidate	61, 66
C18:3 (all <i>cis</i> -9,12,15) Fatty acid	62	Methyl erucate	65
C18:3 (all <i>cis</i> -9,12,15) Methyl ester	62	Methyl ester of CLA (10- <i>trans</i> , 12- <i>cis</i> )	69
C18:4 (all <i>cis</i> -6,9,12,15) Fatty acid	63	Methyl ester of CLA (9- <i>cis</i> , 11- <i>cis</i> )	69
C18:4 (all <i>cis</i> -6,9,12,15) Methyl ester	63	Methyl ester of CLA (9- <i>cis</i> , 11- <i>trans</i> )	68
C19:1 ( <i>cis</i> -10) Fatty acid	63	Methyl ester of CLA (9- <i>trans</i> , 11- <i>trans</i> )	69
C19:1 ( <i>cis</i> -10) Methyl ester	63	Methyl ester of <i>omega</i> -3 fatty acid	65, 66
C20:1 ( <i>cis</i> -11) Fatty acid	64	Methyl <i>gamma</i> linolenate	63
C20:1 ( <i>cis</i> -11) Methyl ester	64	Methyl gondoate	64
C20:2 (all <i>cis</i> -11,14) Fatty acid	64	Methyl heptadecenoate ( <i>cis</i> -10)	61
C20:2 (all <i>cis</i> -11,14) Methyl ester	64	Methyl hexadecenoate ( <i>cis</i> -9)	60
C20:3 (all <i>cis</i> -5,8,11) Methyl ester	64	Methyl hexadecenoate ( <i>trans</i> -9)	60, 66
C20:3 (all <i>cis</i> -8,11,14) Methyl ester	64	Methyl homogamma linolenate	64
C20:4 (all <i>cis</i> -5,8,11,14) Fatty acid	64	Methyl jacarate	63
C20:4 (all <i>cis</i> -5,8,11,14) Methyl ester	64	Methyl linoelaidate	62, 67
C20:5 (all <i>cis</i> -5,8,11,14,17) Fatty acid	65	Methyl linoleate	62
C20:5 (all <i>cis</i> -5,8,11,14,17) Methyl ester	65	Methyl myristoleate	59
C22:1 ( <i>cis</i> -13) Fatty acid	65	Methyl nervonate	66
C22:1 ( <i>cis</i> -13) Methyl ester	65	Methyl nonadecenoate ( <i>cis</i> -10)	63
C22:5 (all <i>cis</i> -7,10,13,16,19) Fatty acid	65	Methyl octadecadienoate (all <i>cis</i> -9,12)	62
C22:5 (all <i>cis</i> -7,10,13,16,19) Methyl ester	65	Methyl octadecadienoate (all <i>trans</i> -9,12)	67
C22:6 (all <i>cis</i> -4,7,10,13,16,19) Methyl ester	66	Methyl octadecadienoate (all <i>trans</i> -9,12)	62
C22:6 (all <i>cis</i> -4,7,10,13,16,19) <i>omega</i> -3 Fatty acid	65	Methyl octadecatrienoate (all <i>cis</i> -6,9,12)	63
C24:1 ( <i>cis</i> -15) Fatty acid	66	Methyl octadecatrienoate (all <i>cis</i> -9,12,15)	62
C24:1 ( <i>cis</i> -15) Methyl ester	66	Methyl octadecenoate ( <i>cis</i> -11)	61
<i>Cis-Trans</i> FAME Isomer Standard Mixture	67	Methyl octadecenoate ( <i>cis</i> -9)	61
<i>cis</i> -Vaccenic acid	61	Methyl octadecenoate ( <i>trans</i> -11)	67
CLnA	63	Methyl octadecenoate ( <i>trans</i> -11)	62
Conjugated linolenic acid methyl ester	63	Methyl octadecenoate ( <i>trans</i> -9)	66
DHA	65	Methyl octadecenoate ( <i>trans</i> -9)	61
DHA methyl ester	66	Methyl oleate	61
Docosahexaenoic acid (all <i>cis</i> -4,7,10,13,16,19)	65	Methyl palmitelaidate	60, 66
Docosapentaenoic acid (all <i>cis</i> -7,10,13,16,19)	65	Methyl palmitoleate	60
Docosenoic acid ( <i>cis</i> -13)	65	Methyl pentadecenoate ( <i>cis</i> -10)	60
DPA	65	Methyl punicate	63
DPA methyl ester	65	Methyl stearidonate (all <i>cis</i> -6,9,12,15)	63
Eicosadienoic acid (all <i>cis</i> -11,14)	64	Methyl tetracosenoate ( <i>cis</i> -15)	66
Eicosapentaenoic acid (all <i>cis</i> -5,8,11,14,17)	65	Methyl tetradecenoate ( <i>cis</i> -9)	59
Eicosatetraenoic acid (all <i>cis</i> -5,8,11,14)	64	Methyl <i>trans</i> -vaccenate	62, 67
Eicosenoic acid ( <i>cis</i> -11)	64	Morocitic acid	63
Elaidic acid	61, 66	Morocitic acid methyl ester	63
EPA	65	Myristoleic acid	59
EPA methyl ester	65	Nervonic acid ( <i>cis</i> -15)	66
Erucic acid	65	Nonadecenoic acid ( <i>cis</i> -10)	63
<i>gamma</i> -Linolenic acid	62	Octadecadienoic acid (all <i>cis</i> -9,12)	62
Gondoic acid	64	Octadecadienoic acid (all <i>trans</i> -9,12)	62, 67
Heptadecenoic acid ( <i>cis</i> -10)	60	Octadecatrienoic acid (all <i>cis</i> -6,9,12)	62
Hexadecenoic acid ( <i>cis</i> -6)	60	Octadecatrienoic acid (all <i>cis</i> -9,12,15)	62
Hexadecenoic acid ( <i>cis</i> -9)	60	Octadecenoic acid ( <i>cis</i> -11)	61

Octadecenoic acid ( <i>cis</i> -9)	61
Octadecenoic acid ( <i>trans</i> -11)	61, 67
Octadecenoic acid ( <i>trans</i> -9)	61, 66
Oleic acid	61
<i>omega</i> -3 Fatty acid	65
Palmitelaic acid	60, 66
Palmitoleic acid	60
Pentadecenoic acid ( <i>cis</i> -10)	59
Sapienic acid	60
Stearidonic acid (all <i>cis</i> -6,9,12,15)	63
Tetracosenoic acid ( <i>cis</i> -15)	66
Tetradecenoic acid ( <i>cis</i> -9)	59
<i>trans</i> -Vaccenic acid	61, 67

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# MATREYA

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