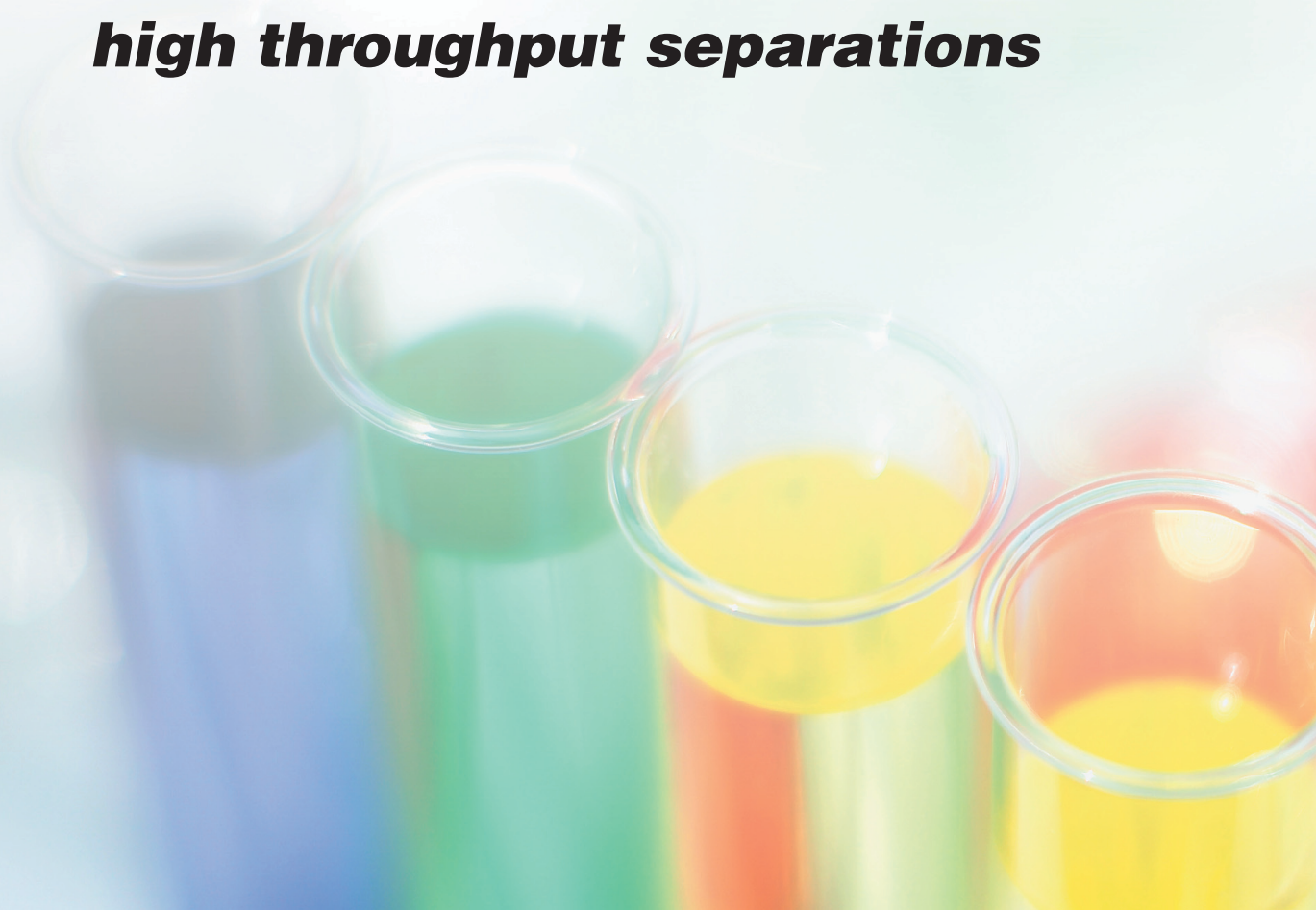




# **YMC-Actus**

***for fast semi-preparative HPLC  
high throughput separations***



# YMC-Actus



## Fast semi-preparative chromatography

Semi-preparative chromatography is the link between analytical HPLC and preparative LC. Even though the chromatographic systems used for semi-preparative LC do not reach the size of preparative LC systems, the objectives remain the same:

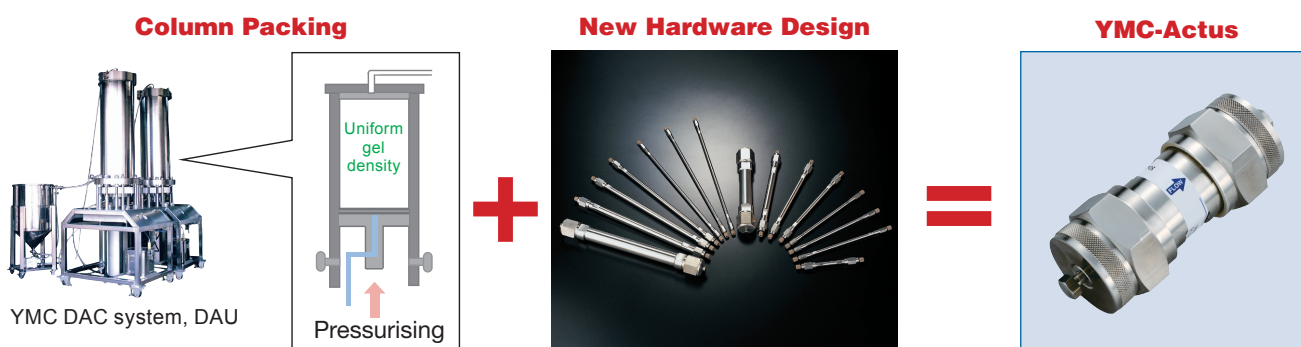
- Purification and isolation of maximum sample quantity
- Savings in time and costs.

**With YMC-Actus time is on your side!**

## Technology

YMC, well known for its experience in DAC column technology, both in terms of hardware and packing procedures, has modified its robust DAC-column packing knowledge for semi-preparative column applications.

In combination with a new hardware design, YMC-Actus columns achieve an outstanding durability and efficiency.



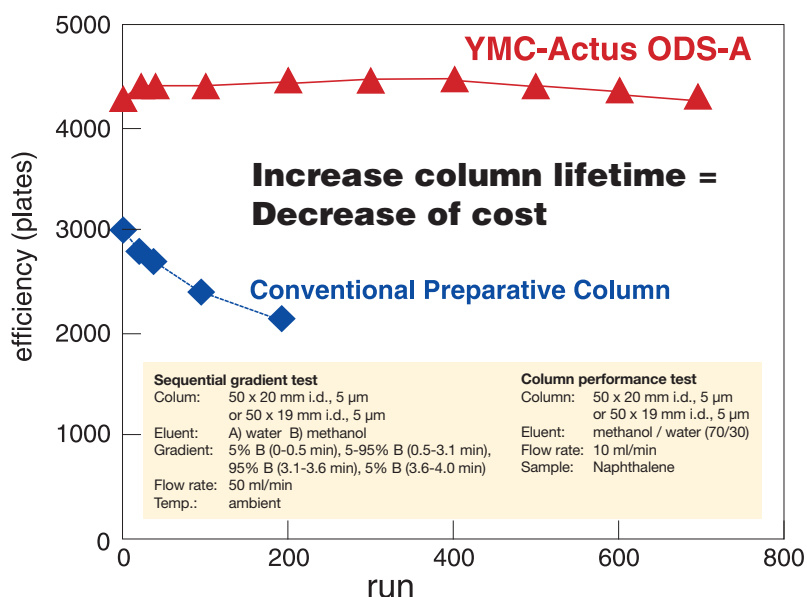
## Durability

Rapid pressure changes under high-speed gradient conditions may lead to column degradation and loss of column performance.

With YMC-Actus, a new hardware and packing technology has been applied to these semi-preparative columns to provide a uniform packing density which results in a longer lifetime than conventional semi-preparative columns.

In order to determine the quality of the packing, the column performance was evaluated every 100 runs with a sequential high throughput gradient.

YMC-Actus columns offer outstanding efficiency without compromising resolution. Furthermore, YMC-Actus columns provide reliable results, even after exposure to severe, rapid gradient conditions and multiple injections.



# YMC-Actus

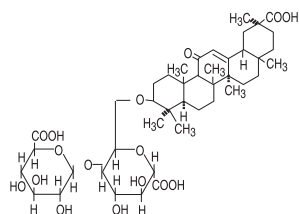
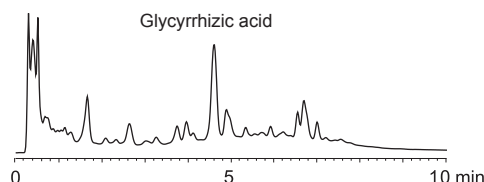
## Excellent durability and efficiency under fast gradient condition at high flow rate

### Glycyrrhizic acid in herb medicine

#### Analysis

**YMC-Pack ODS-AQ, 50 x 4.6 mm i.d., 5 µm**

3 ml/min, 10 µl injection

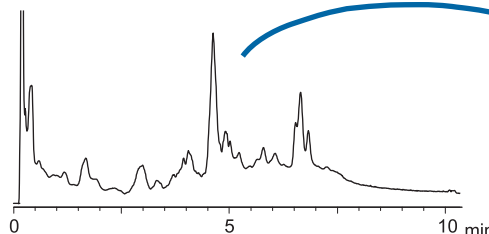


Glycyrrhizic acid

#### Purification

**YMC-Actus ODS-AQ, 50 x 20 mm i.d., 5 µm**

60 ml/min, 500 µl injection



After purification  
99.5%

Eluent : A) water/acetic acid (99/1)  
B) methanol/acetic acid (99/1)  
20%B (0-2 min), 20-45%B (2-7 min),  
45%B (7-10 min)  
Temperature : ambient  
Detection : UV at 260 nm  
Sample : water/methanol/acetic acid extract of  
commercially available herb medicine  
(0.1 g/ml)

## R&D Kits

To minimise the problems that the process of scale-up may introduce, YMC offers YMC R&D kits, which consist of one analytical column and one YMC-Actus column packed with exactly the same packing material from the same production lot. Therefore no further method development is needed, just a simple linear scale-up calculation.

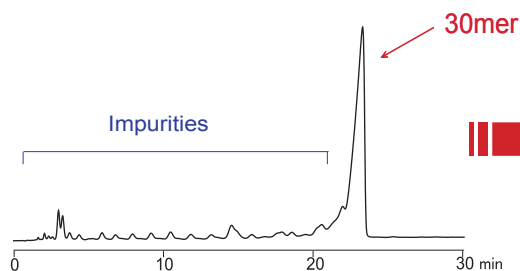
## Outstanding separation of highly polar compounds

### Crude synthetic 30mer oligonucleotide

**Analysis** 1.0 ml/min, 5 µl injection

**Hydrosphere C18**

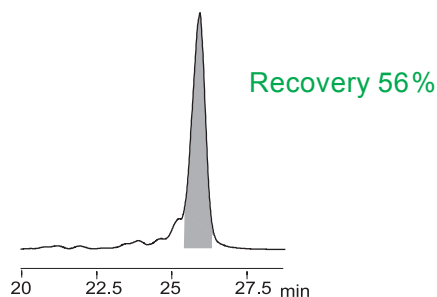
50 x 4.6 mm i.d., 5 µm



**Purification** 19 ml/min, 100 µl injection

**YMC-Actus Hydrosphere C18**

50 x 20 mm i.d., 5 µm



Recovery 56%

Eluent : A) 10 mM DBA-acetic acid (pH6.0) /methanol (60/40)  
B) 10 mM DBA-acetic acid (pH6.0) /methanol (20/80)  
10-35%B (0-30 min)  
Temperature : ambient  
Detection : UV at 269 nm  
Sample : synthetic oligonucleotide (100 µM)

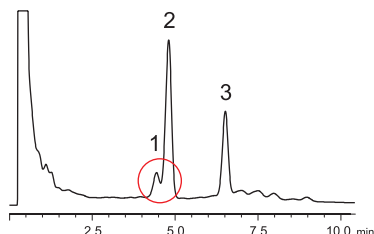
— purity>99%

## Excellent separations of compounds with similar structure

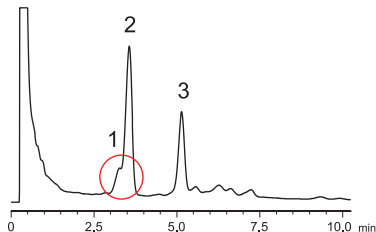
### Capsaicinoids in red pepper

**Analysis** 50 x 4.6 mm i.d., 5 µm  
2.0 ml/min, 20 µl injection

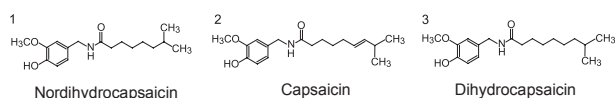
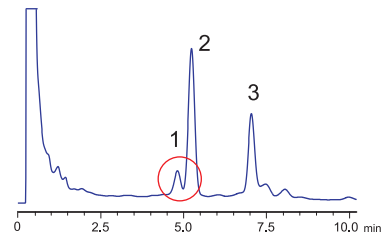
Phenomenex Luna C18, 5 µm, 10 nm



Waters XBridge C18, 5 µm



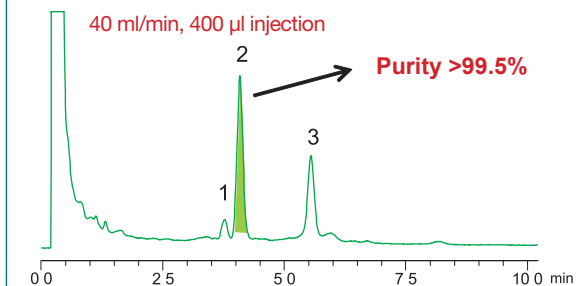
YMC-Pack Pro C18 RS



Eluent : A) methanol/water/TFA (50/50/0.1)  
B) methanol/TFA (100/0.1)  
0-30%B (0-5 min), 30%B (5-10 min)  
Temperature : 25°C for 50 X 4.6 mm i. d.  
ambient for 50 X 20 mm i. d.  
Detection : UV at 280 nm  
Sample : methanol extract of a commercial red pepper (1 g/3 ml)

### Purification

**YMC-Actus Pro C18 RS, 50 x 20 mm i.d. 5 µm**

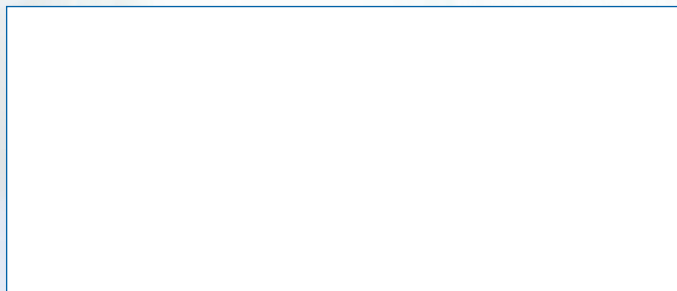


### Ordering Information\*

Packing material	Particle size (µm)	Pore size (nm)	Column size length x i.d. (mm)	Product number
Pro C18	5	12	50 x 20	AS12S050520WX
Hydrosphere C18	5	12	50 x 20	HS12S050520WX
Pro C18 RS	5	8	50 x 20	RS08S050520WX
ODS-A	5	12	50 x 20	AA12S050520WX
ODS-AQ	5	12	50 x 20	AQ12S050520WX
Pro C8	5	12	50 x 20	OC12S050520WX

\* Alternative selectivities, dimensions and particle sizes are available on request.

Your local distributor:



#### YMC Co., Ltd.

YMC Karasuma-Gojo Bld. 284 Daigo-cho,  
Karasuma Nisilru Gojo-dori Shimogyo-ku,  
Kyoto 600-8106 Japan  
TEL. +81(0)75-342-4515, FAX +81(0)75-342-4550  
www.ymc.co.jp

#### YMC America, Inc.

941 Marcon Boulevard Suite 301  
Allentown, PA18109 USA  
TEL. +1-610-266-8650, FAX +1-610-266-8652  
www.ymcamerica.com

#### YMC Europe GmbH

Schöttmannshof 19  
D-46539 Dinslaken  
Germany  
TEL. +49(0)2064/427-0, FAX +49(0)2064/427-222  
www.ymc.de