



Cancer Immunotherapy Antibody Drug Development

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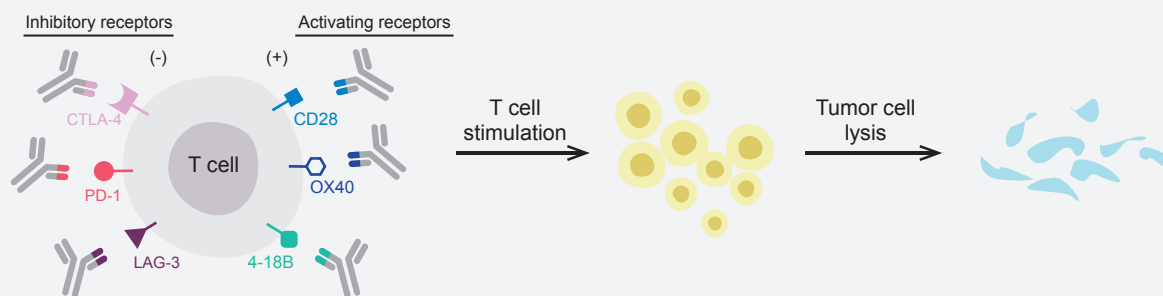
Cancer Immunotherapy Antibody Drug Development

Related Products from GenScript

Traditionally, cancer is treated by chemotherapy, radiation or surgery. Immunotherapy, a way of curing patients by training the immune system to attack cancer cells, is a new promising cancer treatment.

Immune checkpoints are involved in a series of immunomodulatory pathways that can either co-stimulate or co-inhibit the immune response. Many cancer cells have developed mechanisms to hinder the regulation of these checkpoint proteins and allow them to escape the supervision of the immune system.

Checkpoint inhibitor drugs, often made of antibodies, block these checkpoint proteins on cancer cells or T cells. The result removes the blinders that prevent T cells from recognizing the cells as cancerous which leads an immune system assault on them, known as cancer immunotherapy.



GenScript provides a One-Stop Platform to accelerate your immunotherapy research.

1/ Immune Checkpoint Antibodies

2/ Anti-Antibody Drug Antibodies (Anti-ID Antibodies)

3/ Immunotherapy Recombinant Proteins

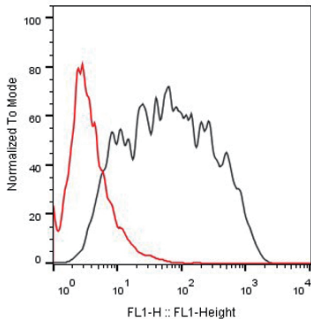
4/ Immune Checkpoint Cell Lines

Immune Checkpoint Antibodies

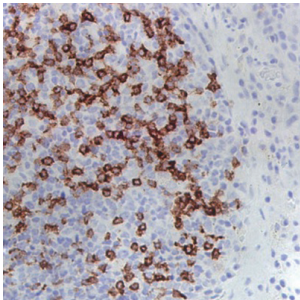


Application

- Positive control for antibody drug early development
- Validate cell line development
- Facilitate assay development



FACS ligand blocking tests of **Human PD-1 Antibody PD1.H5** (Cat. No A01828) blocks the binding of human PD-1 cell line (Cat. No M00529) with Human PD-L1 protein (Cat. No Z03371, Red) and CHO negative control cell (Black).



Immunohistochemistry analysis of human tonsil tissue using Human PD-1 Antibody PD1.H5 (Cat.No. A01828)

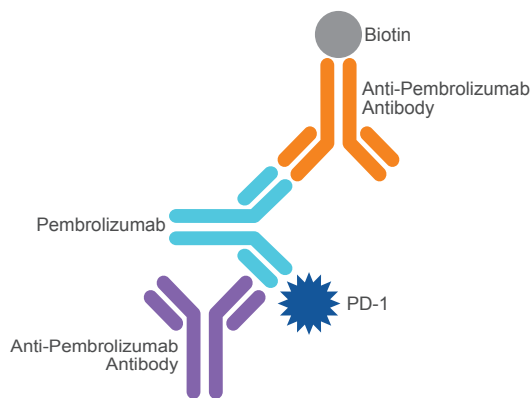
Product list

Target	Product Name	Cat. No
4-1BB	Human 4-1BB Antibody (8C10), mAb, Mouse	A01974-40
PD-1	Human PD-1 Antibody (PD1.H5), mAb, Mouse	A01828-40
	Human PD-1 Antibody (PD1.D3), mAb, Mouse	A01829-40
PD-L1	Human PD-L1 Antibody (PDL1.D1), mAb, Mouse	A01830-40
	Human PD-L1 Antibody (PDL1.A6), mAb, Mouse	A01831-40
CTLA-4	Human CTLA-4 Antibody (CT.F3), mAb, Mouse	A01832-40
	Human CTLA-4 Antibody (CT.E8), mAb, Mouse	A01833-40
	Mouse CTLA-4 Antibody (MCT.F6), mAb, Mouse	A01842-40
	Mouse CTLA-4 Antibody (MCT.E9), mAb, Mouse	A01843-40
HVEM	Human HVEM Antibody (10C6), mAb, Mouse	A01959-40
LAG3	Human LAG3 Antibody (LG.F9), mAb, Mouse	A01875-40
	Human LAG3 Antibody (LG.B5), mAb, Mouse	A01876-40
TIGIT	Human TIGIT Antibody (20A9), mAb, Mouse	A01981-40
TIM-3	Human TIM-3 Antibody (TI.B2), mAb, Mouse	A01834-40
	Human TIM-3 Antibody (TI.H3), mAb, Mouse	A01835-40
VISTA	Human VISTA Antibody (VA.F6), mAb, Mouse	A01864-40
OX40	Human OX40 Antibody (OX.A10), mAb, Mouse	A01866-40
	Human OX40 Antibody (OX.E12), mAb, Mouse	A01867-40
CD27	Human CD27 Antibody (16G7), mAb, Mouse	A01964-40
CD38	Human CD38 Antibody (38.H1), mAb, Mouse	A01873-40
	Human CD38 Antibody (38.F2), mAb, Mouse	A01874-40
CD80	Human CD80 Antibody (17F3), mAb, Mouse	A01973-40
CD86	Human CD86 Antibody (2B11), mAb, Mouse	A01982-40

Anti-Antibody Drug Antibodies (Anti-idiotypic Antibodies)

Application

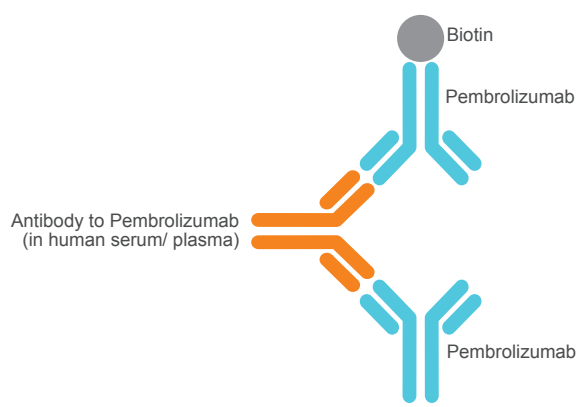
- Pharmacokinetic (PK) studies: Used to measure the drug level in patient samples
- Immunogenicity (anti-drug antibody) assays: Used as a positive control or reference standard



Schematic image of total Pembrolizumab or the biosimilar (free, partially bound, fully bound) PK study.

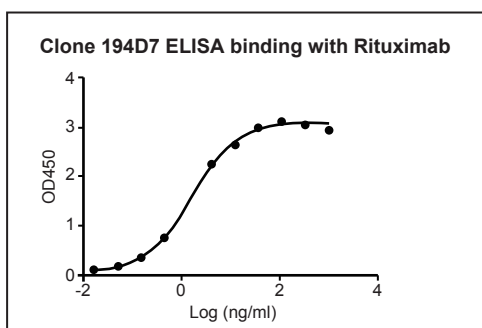
The assay was developed by using Anti-Pembrolizumab Antibody, mAb, Mouse (Cat.No. A01844) as capture antibody and the biotin conjugated (Cat.No. A01845) as the detection antibody.

Sensitivity	0.295 ng/ml
Detection Range	1.56-100 ng/ml
Test Samples	Human serum/plasma, mouse serum/plasma



Schematic image of Pembrolizumab or the biosimilar immunogenicity assay. Anti-Pembrolizumab Antibody, pAb, Rabbit (Cat.No. A01846) can be used as positive control for the standard curve.

Sensitivity	0.20 ng/ml
Detection Range	1.56-100 ng/ml
Test Samples	Human serum/plasma (EDTA), mouse serum, rat serum/plasma (heparin), rabbit serum/plasma (heparin)



MonoRab™ Anti-Rituximab Antibody (194D7), mAb, Rabbit
(Cat.No. A01943-40) : dilution starting from 1,000 ng/ml
Coating antigen: Rituximab, 1 µg/ml, EC₅₀= 1.618 ng/ml
The antibody does not recognize the human IgG Fc fragment
(data not shown).

Product list

Drug Target	Antibody	Clonality	Clone ID	Host	Label	Cat. No
PD-1	Anti-Pembrolizumab	pAb		Rabbit		A01846-40
		mAb	1D6E10	Mouse		A01844-40
		mAb	10E12C6	Mouse	Biotin	A01845-40
		mAb	90G12	Rabbit		A01960-40
	Anti-Nivolumab	mAb	90G12F8	Rabbit	Biotin	A01853-40
		pAb		Rabbit		A01931-40
		mAb	8G6G3D8	Mouse		A01847-40
		mAb	6G5	Mouse		A01965-40
PD-L1	Anti-Atezolizumab	mAb	6G5H2E6	Mouse	Biotin	A01848-40
		mAb	10G9	Mouse		A01948-40
		mAb	6B12	Mouse		A01949-40
		mAb	6B12	Mouse	Biotin	A01950-40
CTLA-4	Anti-Ipilimumab	mAb	26B6H7D9	Mouse		A01859-40
		mAb	4H6	Mouse		A01961-40
		mAb	4H6E1D4	Mouse	Biotin	A01858-40
CD20	Anti-Rituximab	pAb		Rabbit		A01918-40
		mAb	6C1	Mouse		A01969-40
		mAb	17B6	Mouse		A01970-40
		mAb	17B6	Mouse	Biotin	A01971-40
		mAb	137C6	Rabbit		A01942-40
		mAb	194D7	Rabbit		A01943-40
		mAb	194D7	Rabbit	Biotin	A01944-40
	Anti-Obinutuzumab	pAb		Rabbit		A01933-40
		mAb	18H8	Mouse		A01945-40
		mAb	16B7	Mouse		A01946-40
		mAb	16B7	Mouse	Biotin	A01947-40
		mAb	8G12	Rabbit		A01966-40
		mAb	169F10	Rabbit		A01967-40
		mAb	169F10	Rabbit	Biotin	A01968-40

3 Immunotherapy Recombinant Proteins

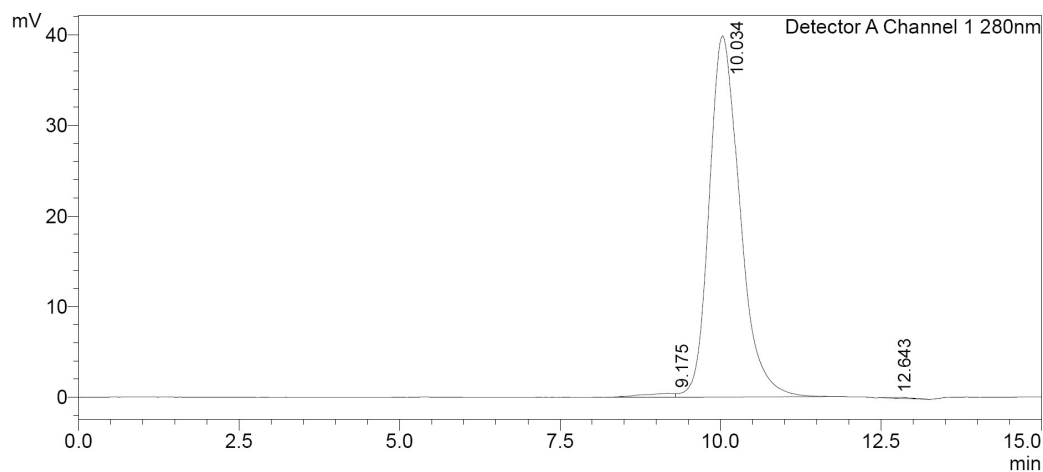
Application

- Immunogen for antibody production
- Antibody drug screening

Key features

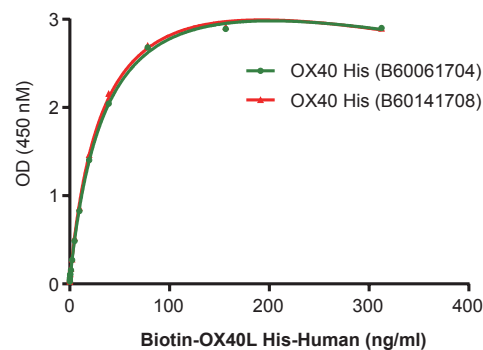
- Validated specific activity
- High purity (>95%) & lot-to-lot consistency
- Extremely low endotoxin level (<0.2 EU/ug)

High Purity



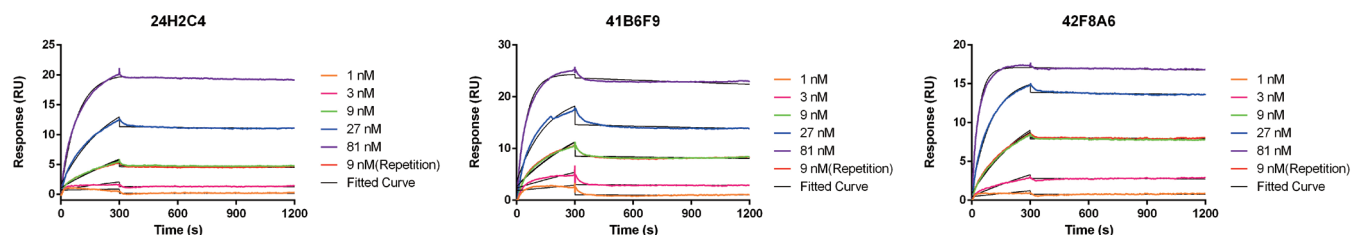
The purity of PD-1, His, Human (Cat.no Z03424) is greater than 98% as determined by SEC-HPLC.

Batch to Batch Stability



Immobilized OX40 His, human (Cat.no Z03438) at 2 µg/mL (100 µL/well) can bind Biotin-OX40L His, Human with a linear range of 1.22-19.53 ng/mL when detected by Streptavidin-HR

Biological activity



Coated CTLA-4 Fc Chimera, Human (Cat.no Z03373) for antibody drug screening on Biacore (24H2C4, 41B4F9, 42F8A6).

Product list

Ligand/ Receptor	Product Name	Cat. No
4-1BB	4-1BB (CD137) Fc Chimera, Human	Z03382
B7-1	B7-1(CD80) Fc Chimera, Human	Z03409
B7-2	B7-2/CD86 Fc Chimera, Human	Z03416
	B7-2/CD86 Fc His, Human	Z03452
B7-H2	B7-H2/ICOSLG Fc Chimera, Human	Z03414
	B7-H2/ICOSLG, His, Human	Z03415
B7-H3	B7-H3 Fc Chimera, Human	Z03426
	B7-H3, His, Human	Z03427
CD19	CD19 Fc Chimera, Human	Z03407
CD25	CD25/IL-2R α Fc Chimera, Human	Z03400
CD28	CD28 Fc Chimera, Human	Z03413
CD40L	CD40L/CD154/TRAP, Human	Z02022
	sCD40L, Human	Z02727
CD47	CD47 Fc Chimera, Human	Z03418
	CD47, His, Human	Z03419
CTLA4	CTLA-4 Fc Chimera, Human	Z03373
HVEM	HVEM-Fc, Human	Z03224
OX40	OX40/TNFRSF4, His, Human	Z03438
PD-1	PD-1 Fc Chimera, Human	Z03370
	PD-1, His, Human	Z03424
PD-L1	PD-L1 Fc Chimera, Human	Z03371
	PD-L1, His, Human	Z03425
PD-L2	PD-L2 Fc Chimera, Human	Z03417
PVR	PVR/CD155 Fc Chimera, Human	Z03435
	PVR/CD155, His, Human	Z03436
SIRP	SIRP α Fc Chimera, Human	Z03420
	SIRP α , His, Human	Z03421
TIGIT	TIGIT Fc Chimera, Human	Z03439
TIM3	TIM-3 Fc Chimera, Human	Z03392

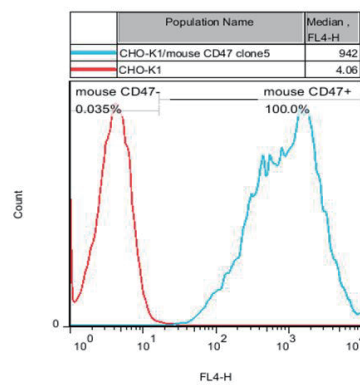
4 Immune Checkpoint Cell Lines

Category and Application

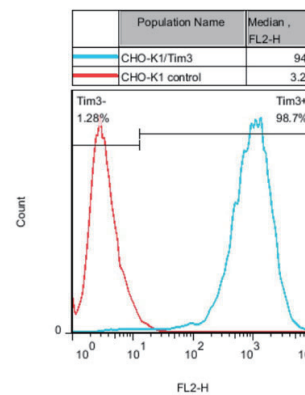
- Cell lines for binding assays - preliminary screening of therapeutic antibodies
- Reporter cell lines for functional assays - function evaluation of therapeutic antibodies

Key features

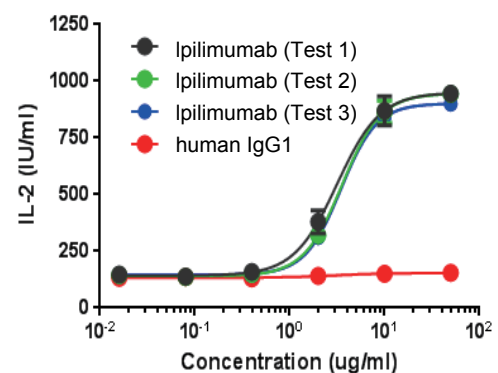
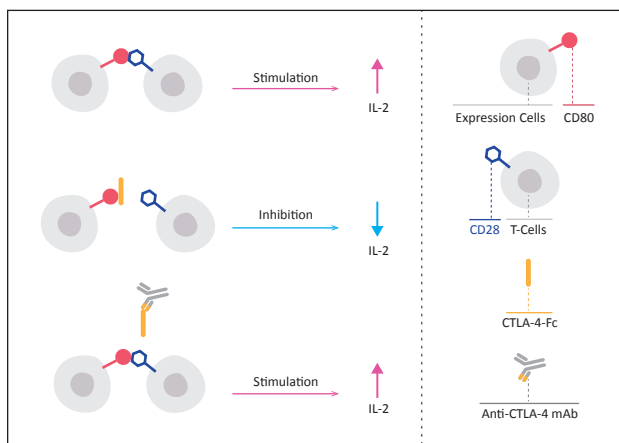
- Ready to use hot targets, saving 3-5 months for drug discovery
- High surface expression level validated by flow cytometry (FACS)
- Stability of target expression over 15 passages in culture
- Viability $\geq 90\%$ upon thawing from liquid nitrogen



FACS analysis of mouse CD47 expression in CHO-K1 cells (Cat. No. M00631).



FACS analysis of Tim3 expression in CHO-K1 cells (Cat. No. M00531)



Cell-based anti-CTLA-4 activity assay. GS-J1/CD28 expressed T cells (Cat.No. M00611) were co-cultured with GS-C1/CD80 (Cat.No. M00614) together with CTLA4 fusion protein and Ipilimumab. The EC₅₀ curves studies with Ipilimumab (Yervoy®) were shown. Human IgG1 was used as a negative control.

Product list

Cell lines for binding assays

Human, Cynomolgus, mouse receptors expressed by CHO-K1 host cell			
4-1BB	CD155	CTLA4	PD-1
B7-H2	CD200 R1	GITR	PD-L1
B7-H3	CD38	HVEM	PD-L2
B7-H4	CD47	ICOS	VISTA
BDCA2	CD64	KIR	TIGIT
BTLA	CD103	OX-40	Tim3

Reporter cell lines for functional assays

Receptor	Reporter Cell Line	Assay	Cat. No
CD27	GS-H2/CD27	IL-8	M00610
CD40	GS-H2/CD40		M00606
GITR	GS-H2/GITR		M00607
CD28	GS-J1/CD28	IL-2	M00611
CD80	GS-C1/CD80		M00614

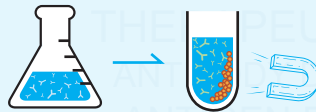
Related products

Fc Receptor Cell Lines

Receptor	Cell Line	Cat. No
CD16	CHO-K1/CD16B	M00602
CD32A	CHO-K1/CD32A 131His	M00598
	CHO-K1/CD32A 131Arg	M00599
CD32B	CHO-K1/CD32B 232Ile	M00587
	CHO-K1/CD32B 232Thr	M00600
CD32C	CHO-K1/CD32C 13Gln	M00601
CD64	CHO-K1/CD64	M00588
FcRn	CHO-K1/FcRn	M00603

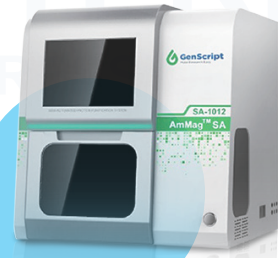
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