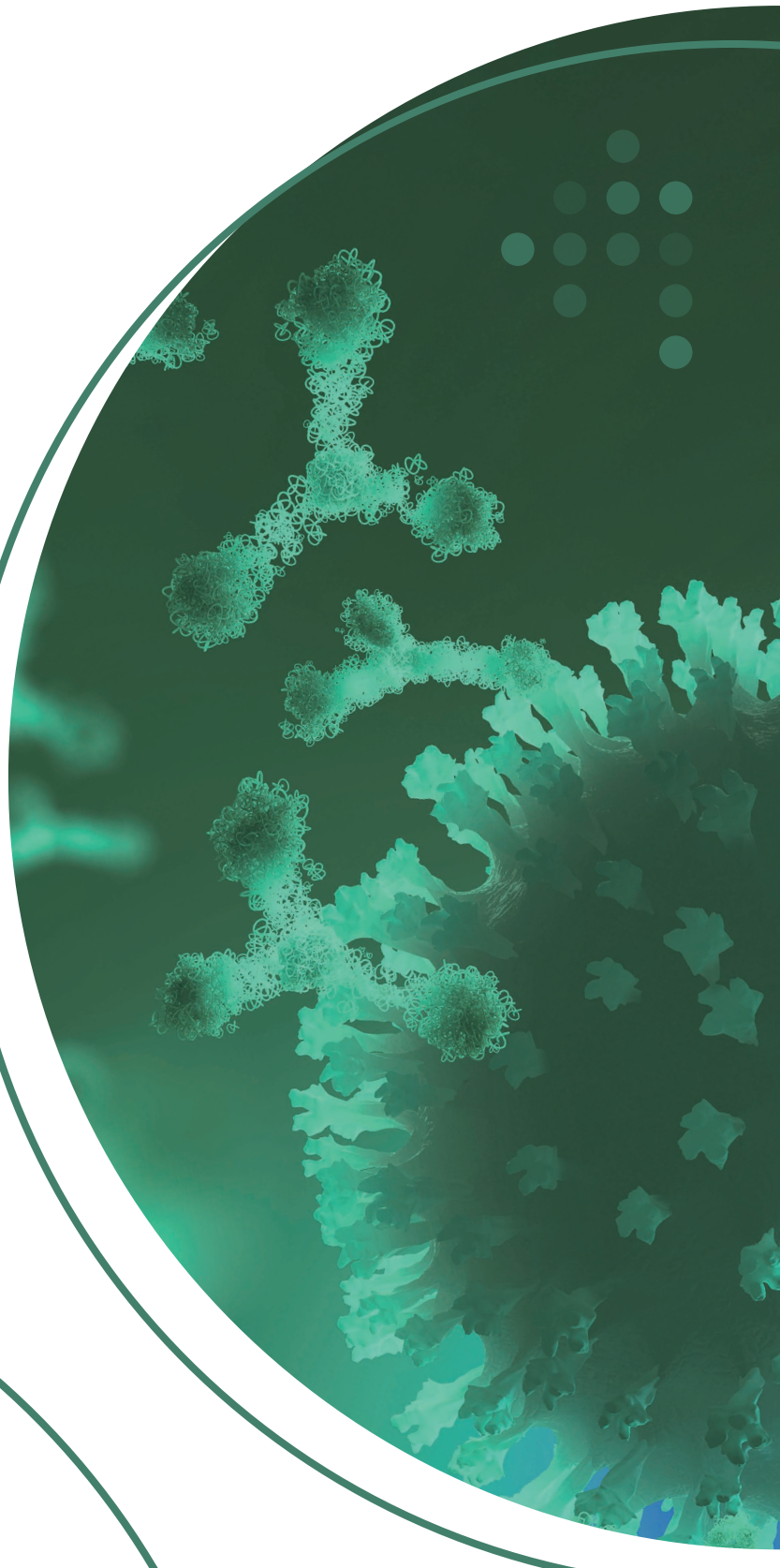
Sino Biological

Drug Target Reagents

Support Drug Discovery & Development



5,000+ Drug Target Reagents for Antibody & Small Molecule Drug Discovery & Development

- Immune Checkpoints
- Cell therapy targets
- Cytokines
- CDs
- Kinases
- Proteases
- Influenza viral enzymes
- HIV viral enzymes
- HCV viral enzymes
- SARS-CoV-2
- Epigenetic enzymes
- GPCRs
- Nuclear receptors
- Ion channels

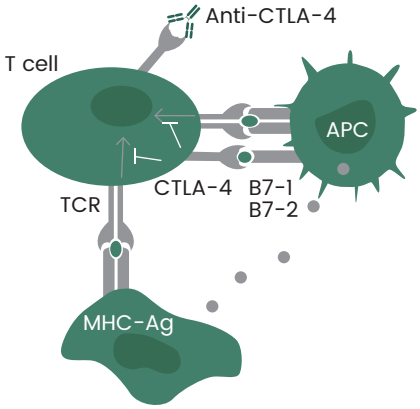
Supporting Multiple Therapeutic Areas

- Oncology
- Neurological diseases
- Cardiovascular diseases
- Injuries & Wound repairs
- Digestive diseases
- Respiratory diseases
- Inflammatory diseases
- Osteoporosis
- Infective diseases
- Autoimmune diseases
- Endocrine & Metabolic diseases
- Cerebrovascular diseases
- Transplant rejections

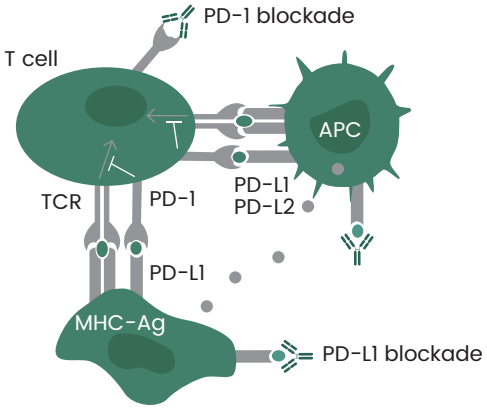
Supporting 5,000+ Customers Worldwide

Basic Research → Translational Research → Drug Development

Immune Checkpoint Related Reagents



Anti-CTLA-4 therapy

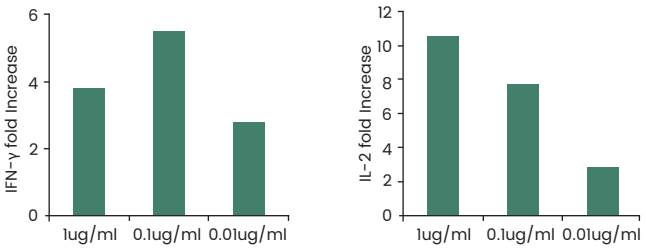


Blockade of PD-L1/PD-1 pathway

Protein Molecules (Partial)

PDCD1	PD-L1	PD-L2	TIGIT	CD155/PVR	PVRIG	PVRL1/NECTIN1
Nectin-2	Nectin 3	NECTIN4/Nectin 4	CD96	CD226	CD137	4-1BBL/TNFSF9
CTLA-4	CD28	B7-1	CD86	CEACAM1	CEACAM3	CEACAM5
CEACAM6	CD66b	LAG3	CD47	SIRP alpha	SIRP gamma/SIRPG	CD40 Ligand
CD40	OX40	OX40L/TNFSF4	B7-H3	B7-H3(4ig)	B7-H4	VISTA
B7-H6	HHLA2	NKp44/NCR2	NKp30/NCR3	TMIGD2	LILRA1/LIR-6/CD85i	LILRA2
LILRA3	LILRA4/CD85g	LILRA5	LILRA6	LILRB1	ILT4	LILRB3
ILT3	LILRB5/CD85c	TIM-3	CD30/TNFRSF8	CD30L	ICOS	ICOS ligand
CD70	CD27	TNFSF18	GITR	LIGHT	CD160	BTLA
HVEM	SLAM/CD150	CD48	CD229	2B4/CD244	CD84	SLAMF6
SLAMF7/CD319	LAIR1	LAIR2	SIGLEC5	CD22	CD33	SIGLEC6
SIGLEC10	SIGLEC15	BTN3A1	BTN3A3	HMGB1	RAGE	NKG2A
NKG2D	KIR2DL1	KIR2DL3	KIR2DL4	KIR2DL5	KIR3DL3	MICA
MICB	DR3					

Neutralizing Antibodies

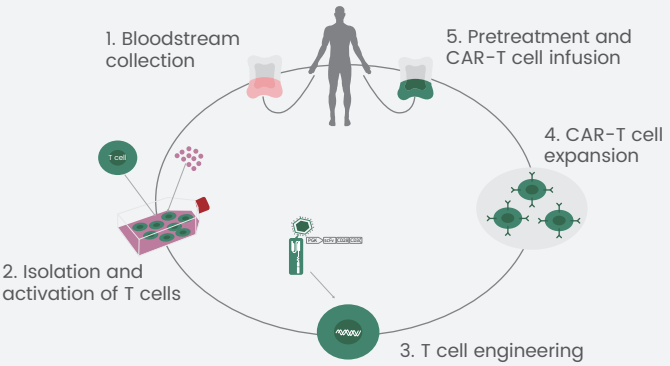


Effect of Human PD1 antibody (Cat#: 10377-HN94) on IFN-gamma and IL2 production in the Mixed Lymphocyte Reaction (MLR).

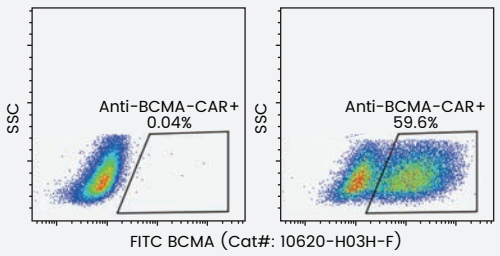
Species	Molecule	Application	Cat#
Human	PD1	Neutralization, Block	10377-HN94
Human	PD1	Neutralization, Block	10377-HF06
Human	PD1	Block	10377-mhT28
Human	PD-L1	Block	10084-R639

CAR-T Cell Therapy Related Reagents

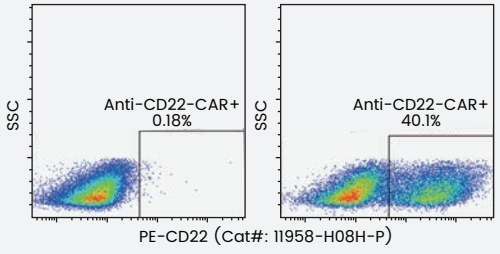
Chimeric Antigen Receptor T cell therapy, or CAR-T cell therapy, has been widely used in the field of cancer immunotherapy and clinical application.



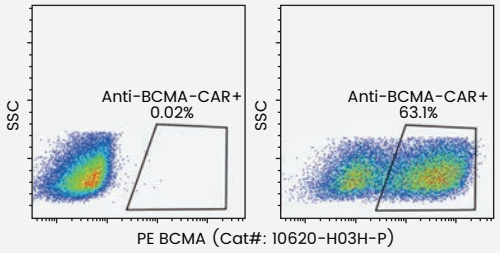
Bioactivity Validated by FACS



293 cells were lentivirally transduced with anti-BCMA CAR. Flow cytometric analysis was performed with FITC-conjugated recombinant human BCMA. Non-transduced 293 cells were used as a control (left).



Human T cells were lentivirally transduced with anti-CD22 CAR. Flow cytometric analysis was performed with PE-conjugated recombinant human CD22. Non-transduced T cells were used as a control (left).



293 cells were lentivirally transduced with anti-BCMA CAR. Flow cytometric analysis was performed with PE-conjugated recombinant human BCMA. Non-transduced 293 cells were used as a control (left).

Conjugated Proteins (Partial)

Molecule	Conjugation
BCMA	PE/FITC/Biotinylated
CD22	PE/Biotinylated
CD33	PE/FITC/Biotinylated
CD38	PE/FITC/Biotinylated
ROR1	Biotinylated
EpCAM	Biotinylated
EGFR	Biotinylated
Her2/ERBB2	Biotinylated
VEGFR2/KDR	Biotinylated
ULBP1	Biotinylated
ULBP2	Biotinylated

Unconjugated Proteins (Partial)

CD19	PD-L1	CD30/TNFRSF8
BCMA	CEACAM5	FAP
CD22	FOLR1	IL3RA
CD33	PD-1	NCAM
CD38	EGFR	ULBP1
Glypican 3	Her2/ERBB2	c-MET
ROR1	VEGFR2/KDR	ULBP2
EpCAM	MUC1	EphA2
Mesothelin	CD70	PSMA
CD20	Syndecan-1/CD138	L1CAM
CD5	Carbonic Anhydrase IX	IL13RA2
CD7	IL1RAP/IL-1RAcP	

Flow Cytometry (FACS) Antibodies

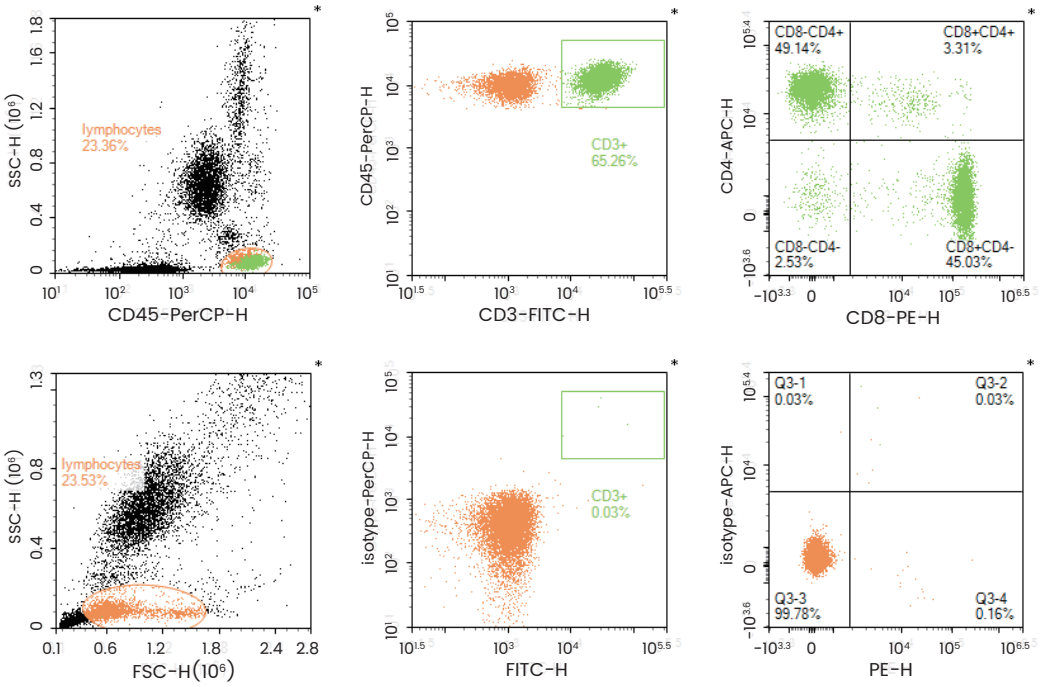
T cell: CD3, CD4, CD8, CD45

Target	Conjugate	Cat#
CD45	PerCP	10086-MM05-C
CD3	FITC	CT026-R301-F
CD4	APC	10400-MM08-A
CD8	PE	10980-MM48-P
Mouse IgG1 isotype	PerCP	
Mouse IgG1 isotype	APC	

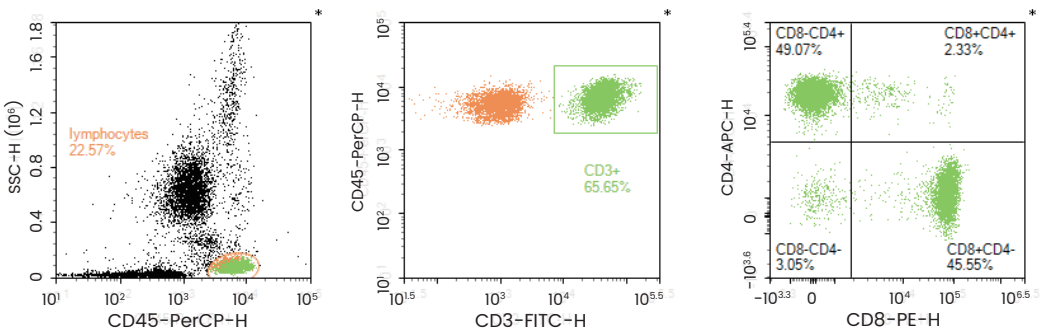
Notes: More FACS Antibodies, please visit www.sinobiological.com

The FACS antibodies target CD3/CD4/CD8/CD45 are used to identify the percentage and absolute count of human mature T lymphocyte (CD3+) and inhibitory/cytotoxic (CD3+CD8+) T lymphocyte subsets in whole blood.

Sino Biological Inc.



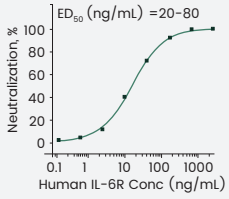
Other Commercial Brand



Cytokine/CD Related Reagents

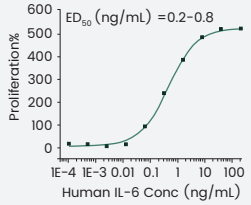
Bioactivity Validated by Cell Based Assay

● Cat#: 10398-H08H



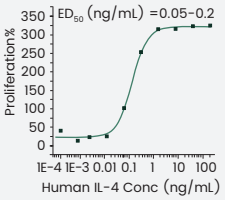
Measured by its ability to enhance the IL6 activity on M1 mouse myeloid leukemia cells.

● Cat#: 10395-HNAE



Measured in a cell proliferation assay using TF-1 human erythroleukemic cells.

● Cat#: 11846-HNAE



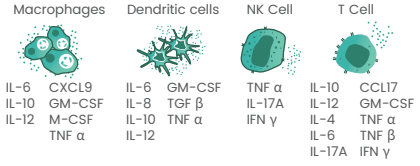
Measured in a cell proliferation assay using TF-1 human erythroleukemic cells.

○ Protein Molecules (Partial)

GDF-8	GM-CSF	HGF	IGF1	IGF-II	VEGFA	IL-1 beta	IL-15	TGF beta 1	CD122/IL2RB	IL7R alpha/CD127
IL17F	IL17RA	IL-18	IL18R1	IL2	IL21	IL3	IL-4	TNF beta	CD25/IL2RA	Interferon Gamma
IL-6	IL-6R	IL-7	M-CSF	NGF	RSPO1	IL4R	IL17	TNF-alpha	IL-1 alpha	

ELISA Kits for the Detection of Cytokines

Based on the well-established recombinant protein platform, antibody technology platform, and QC platform, Sino Biological Inc. has developed a variety of ELISA Kits for the quantitative detection of cytokines, which can be used to accurately quantify cytokines in plasma, serum, cell culture supernatant, and other biological samples.



○ 8 International QC Test Indicators for High-quality ELISA Kits

Detection limit	Precision	Recovery	Linearity	Stability	Natural sample test	Cross-reactivity	Interference
Evaluate the sensitivity	Evaluate the repeated experimental errors	Evaluate the accuracy	Evaluate the accuracy	Evaluate the validity period	Natural samples	Evaluate the Specificity	Analyze the interference to results

○ ELISA Kits —Ready to Use

Species	Target	Cat#	Linear range(pg/ml)	Sample
Mouse	IL1A	KIT50114	6.56-420	S, C
Human	IL2	KIT11848	18.75-1200	S, C, P
Human	IL4	KIT11846	10.94-700	C
Human	IL5	KIT15673	4.69-300	C
Human	IL6	KIT10395A	5.47-350	S, C
Human	IL8	KIT10098	2.5-160	C
Human	IL10	KIT10947A	18.75-1200	C
Human	TNFα	KIT10602	31.25-2000	C
Human	IFNγ	KIT11725A	23.44-1500	C

Notes: S (Serum); C (Cell culture supernatant); P (Plasma)

○ ELISA Pair Sets —Cost effective

Species	Target	Cat#	Linear range (pg/ml)
Mouse	IL1A	SEK50114	6.25-400
Human	IL1B	SEK10139	78.13-5000
Human	IL4	SEK11846	7.81-500
Human	IL5	SEKA15673	3.91-250
Human	IL6	SEKB10395	9.38-600
Human	IL8	SEK10098	11.72-750
Human	IL10	SEKA10947	14.06-900
Human	TNFα	SEKA10602	39.06-2500
Mouse	TNFα	SEK50349	31.25-2000
Ferret	TNFα	SEK60002	78.13-5000
Human	IFNγ	SEKA11725	21.88-1400

Notes: More ELISA Kits, please visit www.sinobiological.com

Neutralizing Antibodies

Species	Molecule	Application	Cat#
Human	TNF	FCM, Neutralization	10602-R10N1
Mouse	TNF	Neutralization	50349-RN023
Human	HGF	Neutralization	10463-mh010

Species	Molecule	Application	Cat#
Human	VEGFA	Neutralization	11066-R010
Human	IL17A	Neutralization	12047-M237
Human	TNFRSF1A	Neutralization	10872-R111

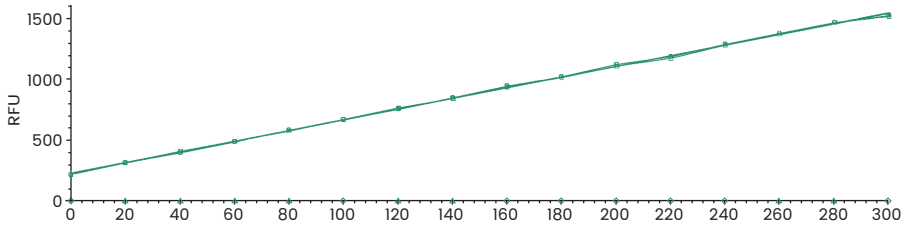
Enzyme Related Reagents

Kinases (Partial)

Molecule	Species	Bioactivity	Sequence
EGFR	Human	The specific activity was determined to be>70 nmol/min/mg using Poly (Glu, Tyr) 4:1 as the substrate	Met668-Ala1210
PDGFRA	Human	The specific activity was determined to be 8 nmol/min/mg using MBP as the substrate	Gln551-Leu1089
IGF1R	Human	The specific activity was determined to be 554 nmol/min/mg using Poly (Glu, Tyr) 4:1 as the substrate	Met954-Cys1367
EphA2	Human	The specific activity was determined to be 50 nmol/min/mg using Poly (Glu, Tyr) 4:1 as the substrate	Leu585-Ile976
VEGFR2/KDR	Human	The specific activity was determined to be 10 nmol/min/mg using Poly (Glu, Tyr) 4:1 as the substrate	Asp807-Val1356
ROR1	Human	The specific activity was determined to be 0.3 nmol/min/mg using MBP as the substrate	Met453-Asn783
c-MET	Human	The specific activity was determined to be 10 nmol/min/mg using MBP as the substrate	Lys956-Ser1390
FGFR2	Human	The specific activity was determined to be 28 nmol/min/mg using Poly (Glu, Tyr) 4:1 as the substrate	Met400-Thr821
CD45	Mouse	The specific activity was determined to be 12306 nmol/min/mg using p-nitrophenyl phosphate as the substrate	Arg453-Ser1152

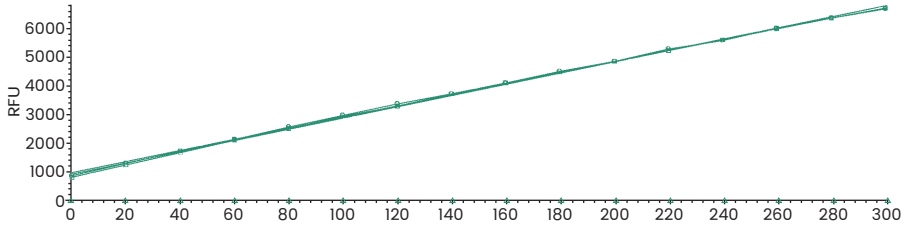
Other Enzymes

○ Recombinant Human FAP Protein (ECD, His Tag)



Cat#: **10464-H07H**
Measured by its ability to convert the substrate benzyloxycarbonyl-Gly-Pro-7-amido-4-methylcoumarin (Z-GP-AMC) to Z-Gly-Pro and 7-amino-4-methylcoumarin (AMC). The specific activity is >1,200 pmol/min/μg

○ Recombinant Human DPP4/CD26 Protein



Cat#: **10688-HNCH**
Measured by its ability to cleave the fluorogenic peptide substrate, Gly-Pro-7-amido-4-methylcoumarin (GP-AMC). The specific activity is >2,500 pmol/min/μg

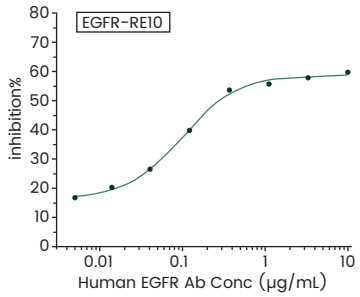
Protein Molecules (Partial)

DPP4/CD26	Factor IX	ENTPD3	PRSS2	CD73	Carbonic Anhydrase IX
FAP	CD39	ADAM17	MMP-9	CD38	Chymotrypsin C
LOXL2	PRSS3	Kallikrein 8	Cathepsin B	Cathepsin S	ADAM8/CD156a

Antibodies & Kits

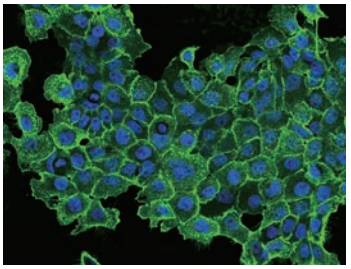
○ Antibodies Validated by Various Applications (Partial)

Neutralizing Antibody



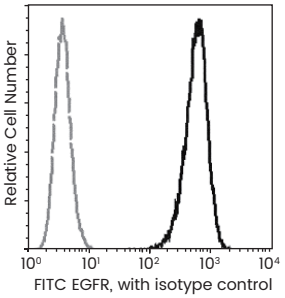
Cell proliferation induced by autocrine EGF was neutralized by the human EGFR monoclonal antibody (Cat#: **10001-RE10**). The IC_{50} is typically 0.05-0.2 μg/mL.

IF Antibody



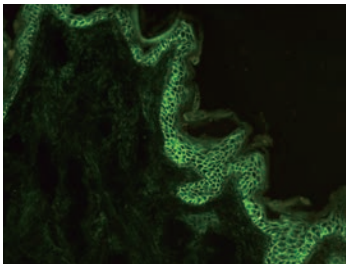
Immunofluorescence staining of EGFR in A431 cells with mouse anti-human EGFR monoclonal antibody (dilution ratio 1:60) (Cat#: **10001-MM08T**).

FCM Antibody

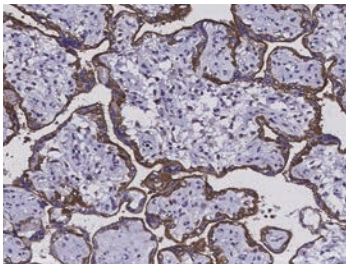


Flow cytometric analysis of EGFR expression on human A431 cells with mouse anti-human EGFR monoclonal antibody (Cat#: **10001-MM08-F**).

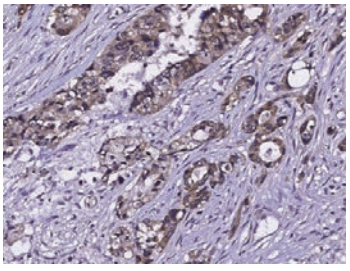
IHC Antibodies



Immunofluorescence staining of EGFR in monkey skin with rabbit monoclonal antibody (1:50, frozen section) (Cat#: **10001-R043**).

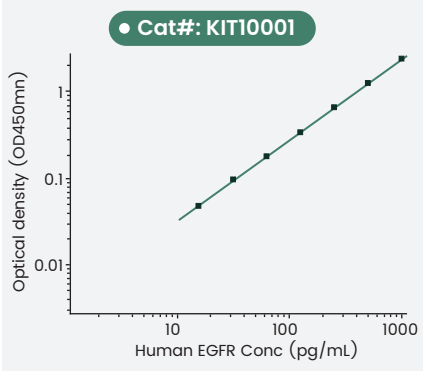


Immunochemical staining of human EGFR in human placenta with mouse monoclonal antibody (1:60, formalin-fixed paraffin-embedded sections) (Cat#: **10001-MM11**).



Immunochemical staining of human EGFR in human rectal carcinoma with mouse monoclonal antibody (1:60, formalin-fixed paraffin embedded sections) (Cat#: **10001-MM11**).

○ ELISA Kits (Partial)



Species	Target	Cat#	Linear range (pg/ml)	Sensitivity (pg/ml)	Sample
Human	EGFR	KIT10001	15.63-1000	3.16	S
Human	KDR	KIT10012	31.25-2000	13.57	S
Human	PDGFRA	KIT10556	109.38-7000	86.73	S
Human	MET	KIT10692	101.56-6500	33.18	S, P
Human	FGFR2	KIT10824	10.94-700	7.15	R

Notes: S (Serum); P (Plasma); R (Recombinant protein)

Virus Related Reagents

Influenza

10 Antigens	HA (HA0, HA1, HA2, HA), NA, NP, M1, M2, NS1, NS2, PB1, PB2, PA
60 Subtypes	H1-H18, N1-N11, Influenza B
300 Strains	Vaccine Strains, HPAI Strains, New Strains, etc.
3000 Reagents	Recombinant Proteins, Antibodies, ELISA Kits, Genes, etc

Covering All Pandemic Influenza

2013 H7N9 flu	2009 H1N1 flu
1968 Hong Kong flu	1957 Asian flu
1918 Spanish flu	H5N1, H7N7, H9N2 (Pandemic threat)

More Influenza Virus Antigens

Molecule	Subtypes/Strains	Expression host
HA	54 influenza A subtypes (H 1-18, N 1-11) 14 influenza B strains	HEK293/Insect
NA	H1N1, H3N2, H4N6, H5N1, H7N7, H7N9, H9N2, H10N8, H12N5, Influenza B	HEK293/Insect
NP	H1N1, H2N2, H3N2, H7N9, Influenza B	Insect
M1	H1N1, H3N2, H7N9	*E. coli*
NS1	H1N1	*E. coli*
NS2	H1N1	*E. coli*

Drug-resistant NA Mutants

Cat#	Subtype	Strain	Mutation
11058-VNAHC1	H1N1	A/California/04/2009	H274Y
11058-VNAHC2	H1N1	A/California/04/2009	N295S
11676-VNAHC1	H5N1	A/Anhui/1/2005	H274Y
40017-VNAHC1	H3N2	A/Babol/36/2005	E119V
40017-VNAHC2	H3N2	A/Babol/36/2005	N294S
40017-VNAHC3	H3N2	A/Babol/36/2005	R292K
40017-VNAHC4	H3N2	A/Babol/36/2005	H274Y

SARS-CoV-2 Antigens (Partial)

S-RBD

Bind with ACE2
40592-V05H mFc
Human cell expressed
40592-V08H
Insect cell expressed

PIpro

40593-V07E
E. coli cell expressed

Helicase

40596-V07E
E. coli cell expressed

NSP

NSP3, 40638-V07E; NSP7, 40617-VNCE
NSP8, 40618-V17E; NSP9, 40619-V40E
NSP10, 40599-VNCE
E. coli cell expressed

RdRP

40595-V08B
Insect cell expressed

3CLpro

40594-V07B
40594-V56B
Insect cell expressed

List of SARS-CoV-2 Spike Mutants (Partial)

P337S: 40592-V08H62	F338L: 40592-V08H26	V341I: 40592-V08H11	F342L: 40592-V08H6	A344S: 40592-V08H37
A348S: 40592-V08H25	N354D: 40592-V08H2	A352S: 40592-V08H58	S359N: 40592-V08H32	V367F: 40592-V08H1
N370S: 40592-V08H43	A372T: 40592-V08H36	A372S: 40592-V08H19	F377L: 40592-V08H27	K378N: 40592-V08H42
K378R: 40592-V08H33	P384L: 40592-V08H24	T385A: 40592-V08H47	T393P: 40592-V08H48	V395I: 40592-V08H49
E406Q: 40592-V08H40	R408I: 40592-V08H10	Q409E: 40592-V08H34	Q414R: 40592-V08H44	Q414E: 40592-V08H23
K417N: 40592-V08H59	A435S: 40592-V08H4	W436R: 40592-V08H9	**N439K: 40592-V08H14**	N440K: 40592-V08H55
K444R: 40592-V08H54	V445F: 40592-V08H79	G446V: 40592-V08H51	G446S: 40592-V08H76	L452R: 40592-V08H28
Y453F: 40592-V08H80	F456L: 40592-V08H71	F456E: 40592-V08H73	K458R: 40592-V08H7	K458Q: 40592-V08H69
E471Q: 40592-V08H56	I472V: 40592-V08H35	G476S: 40592-V08H8	S477R: 40592-V08H64	S477I: 40592-V08H45
S477N: 40592-V08H46	T478I: 40592-V08H30	P479S: 40592-V08H57	N481D: 40592-V08H70	G482S: 40592-V08H53
V483A: 40592-V08H5	V483I: 40592-V08H31	G485S: 40592-V08H52	F486S: 40592-V08H74	F490S: 40592-V08H41
S494P: 40592-V08H18	P499R: 40592-V08H78	**N501Y: 40592-V08H82**	V503F: 40592-V08H15	Y505C: 40592-V08H72
Y508H: 40592-V08H12	A520V: 40592-V08H39	A520S: 40592-V08H20	P521S: 40592-V08H29	P521R: 40592-V08H63
A522V: 40592-V08H16	A522S: 40592-V08H21	**D614G: 40591-V08H3**	N234Q: 40591-V08H11	L455F: 40592-V08H68
N487R: 40592-V08H75	F490L: 40592-V08H83	A475V: 40592-V08H50	D405V, Q414A: 40592-V08H22	
R683A, R685A, F817P, A892P, A899P, A942P, K986P, V987P: 40589-V08H4				

HIV

gp120, gp140, p41, p36, p24, protease, integrase, etc.

	Type	Subtype
HIV1	M	A (West and Central Africa)
		B (Europe, United States, Japan, and Australia)
		C (Southern and East Africa, India and Nepal)
		D (East and Central Africa)
	N	(Cameroon)
	O	(West and Central Africa)
	P	(Cameroon)
HIV2		HIV-2 CRF01_AB

HCV

Core, E1, E2, NS2, NS3, etc.

HCV Subtype	Strain
HCV1a	H77
HCV1b	HC-J4
HCV1c	HC-G9
HCV2a	JFH-1
HCV2b	HC-J8
HCV2c	BEBE1
HCV3a	S52
HCV3b	Tr-Kj

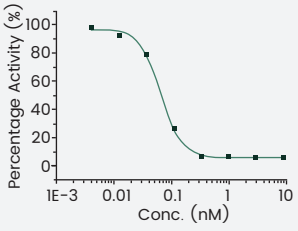
○ More Virus Research Tools, Please Visit: www.sinobiological.com/research/virus

Neutralizing Antibodies

Species	Molecule	Application	Cat#
SARS-CoV-2	Spike	ELISA, Neutralization	40591-MM43
SARS-CoV-2	Spike	ELISA, Neutralization	40592-MM57
SARS-CoV-2	Spike	ELISA, Neutralization	40592-R0004
SARS-CoV-2	Spike	ELISA, Neutralization	40592-R001
Human	ACE2	ELISA, IHC-P, FCM, Neutralization	10108-MM36
Human	ACE2	ELISA, IHC-P, FCM, Neutralization	10108-MM37
MERS-CoV	Spike	Microneutralization	40069-R723
AcMNPV	AcMNPV-GP64	Microneutralization	40496-M001
RSV	RSV-F	ELISA (Cap), Microneutralization	11049-R338
EV71	EV71-VP1	Microneutralization	40013-H136

○ SARS-CoV-2 Neutralizing Antibody

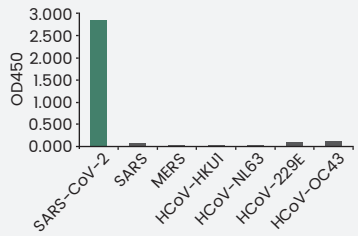
● **Cat#: 40592-R001**



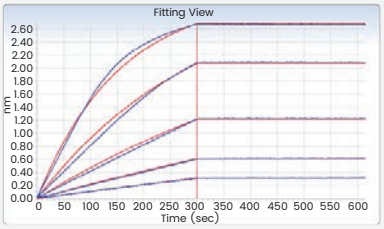
Competitive-ELISA Assay
The IC_{50} is typically 0.59 nM

Conc. (μg/mL)	Inhibition%
100	99.56%
4	99.9%
0.16	59.29%
0.032	5.59%

SARS-CoV-2 Spike Pseudovirus Neutralization Activity Assay
The IC_{50} is typically 0.11 μg/mL.



No Cross-reactivity with other CoVs



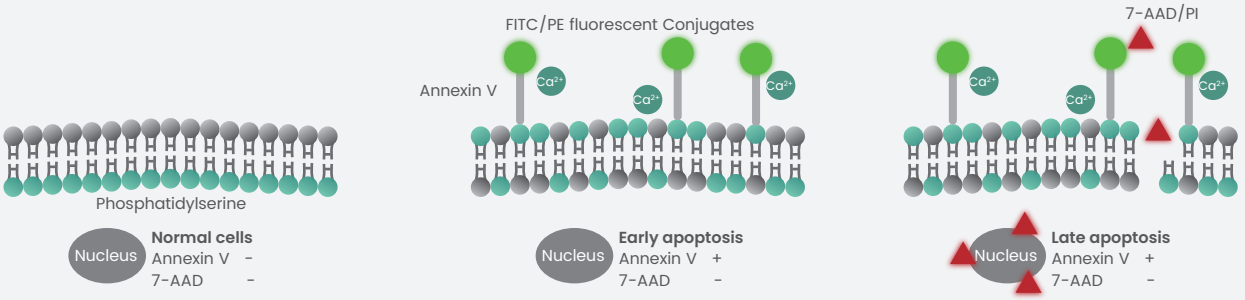
The affinity constant is 0.006nM (Octet RED System).

Other Tool Regents for Drug Targets Research

Annexin V/7-AAD Apoptosis Detection Kits

Produced in house | Quality guarantee | Bulk in stock | 24 Deliver in 24h

Detection Kit Principle

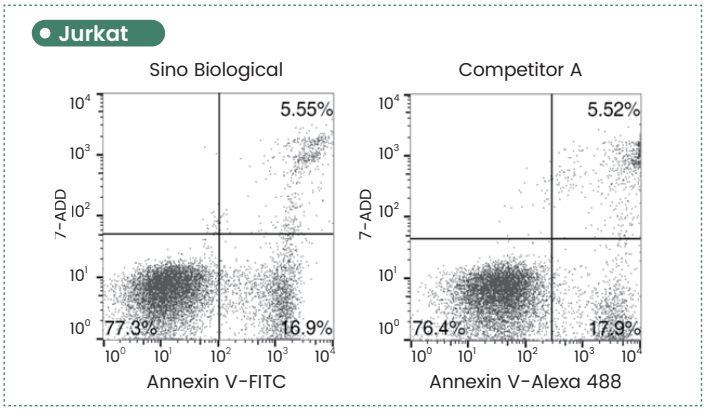


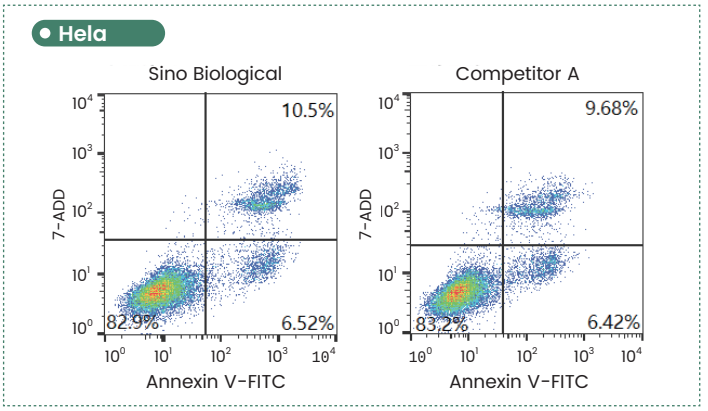
Annexin V combined with 7-AAD/PI staining method is easy to use, more time-saving, and capable of producing stable and reliable results. It's the most ideal method to detect cell apoptosis now.

Tips: 7-AAD/PI staining method cannot distinguish between apoptosis and necrosis. It's recommended that more than two methods should be employed to comprehensively judge the apoptosis stage.

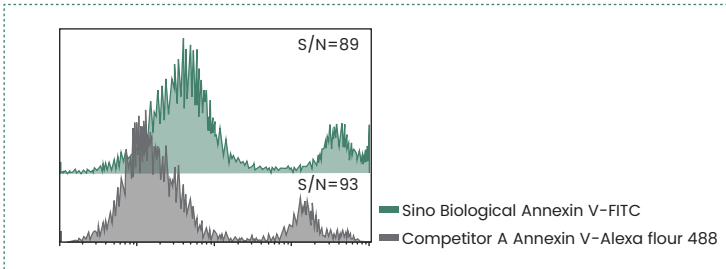
Reliable Sino Biological Apoptosis Detection Kits

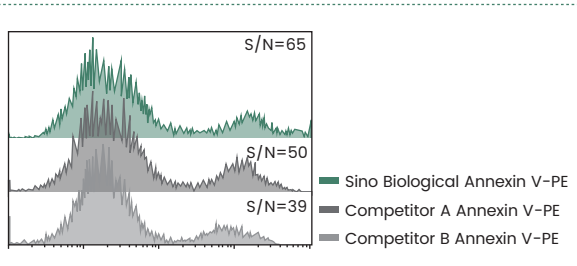
Can accurately distinguish early and late apoptosis compared with leading competitor





Best S/N ratio, easy for setting gates to analyze, and more reliable results





Sino Biological Annexin V/7-AAD Apoptosis Detection Kits List

Product Name	Cat#	Size
Annexin V-FITC/7-AAD Apoptosis Detection Kit	APK10448-F	20 Tests, 100 Tests
Annexin V-FPE/7-AAD Apoptosis Detection Kit	APK10448-P	20 Tests, 100 Tests

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