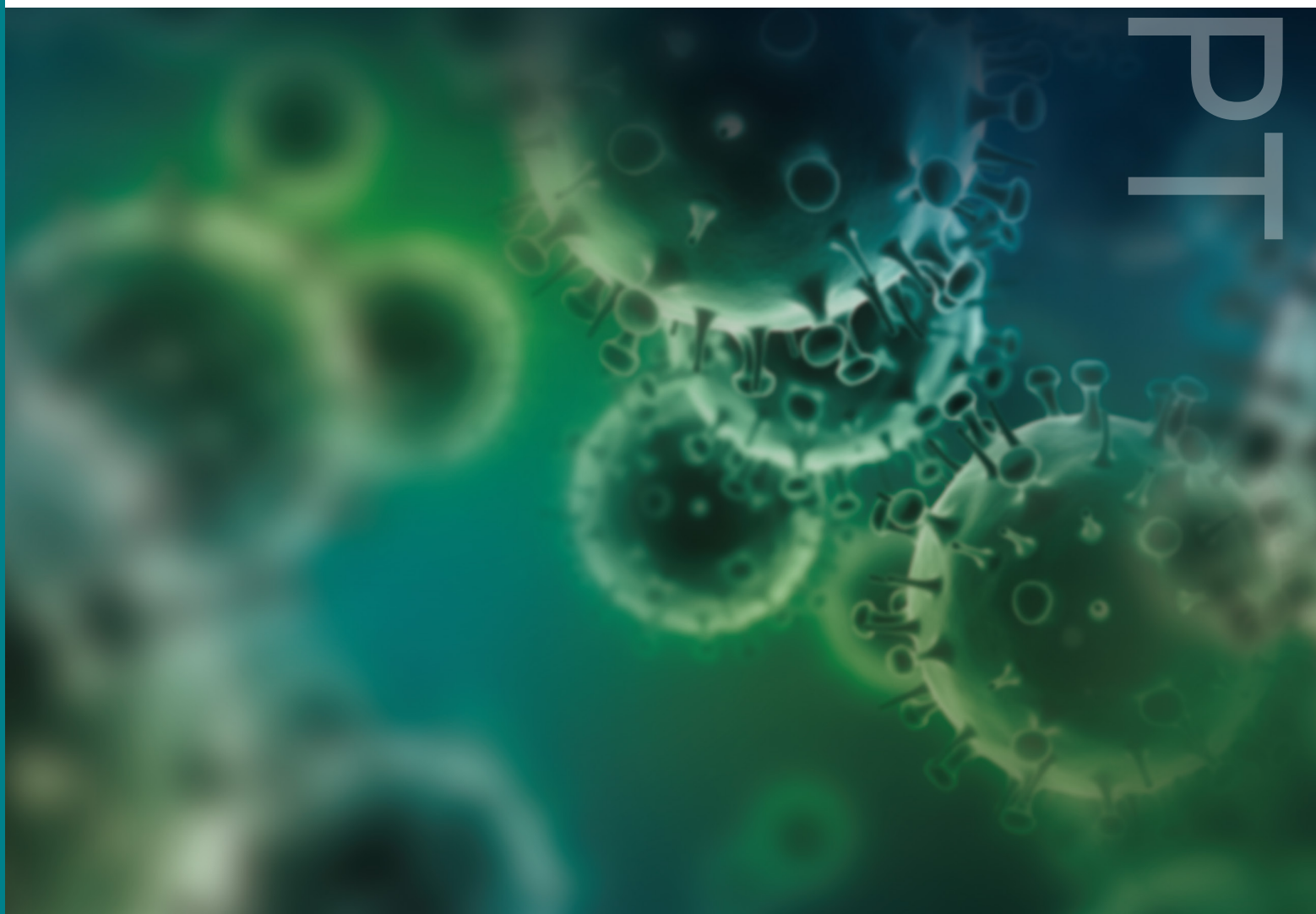
GenScript
Make Research Easy

GENSCRIPT

Stable Cell Line Products

Simplify Your Assay

【 2024 Version 】



Cell lines serve the whole life cycle of biologics, from characterization and optimization to quality control and batch release testing. To accelerate biologics research and development, GenScript launched over 500 types of single clone-derived cell lines for cell-based bioassays that overexpressing trending targets, including G protein-coupled receptors, Immune checkpoints, Fc gamma receptors, neonatal Fc receptor, and ACE2 and spike protein of SARS-Cov-2. These cell lines are used to test the bioactivity of you samples by mimicking the physiological processes. The cell line products are all single clones derived from a stable pool of transfection and are all stable for at least 15 passages. Each recombinant cell line has been validated with specific assay platform.

- Calcium Flux Assay
- cAMP Testing
- IP-1 Accumulation Assay
- FACS
- Cell Viability Assay
- Binding Assay

GPCR Stable Cell Lines

G protein-coupled receptors (GPCRs) which are also known as seven-transmembrane domain receptors, 7TM receptors, constitute a large protein family of receptors, that detect molecules outside the cell and activate internal signal transduction pathways and, ultimately, cellular responses. Coupling with G proteins, they are called seven-transmembrane receptors because they pass through the cell membrane seven times.

Genscript has more than 180+ GPCR cell lines optimized for functional and binding assays.

Key Features

- Multiple assay formats on GPCRS: Ca^{2+} FLux/cAMP/IP-1
- High functional protein expression on the cell surface
- Stable cell lines for increased reliability and reproducibility
- Stringent QC Standards
- Rapid turnaround time
- For sale and for service

Applications

- Screening small molecules and biologics targeting GPCRs
- Characterizing MOA of small molecules and biologics binding with GPCRs *in vitro*
- Measuring binding affinity of small molecules and biologics binding with GPCRs

Cell Line validation

Ca^{2+} FLux assay

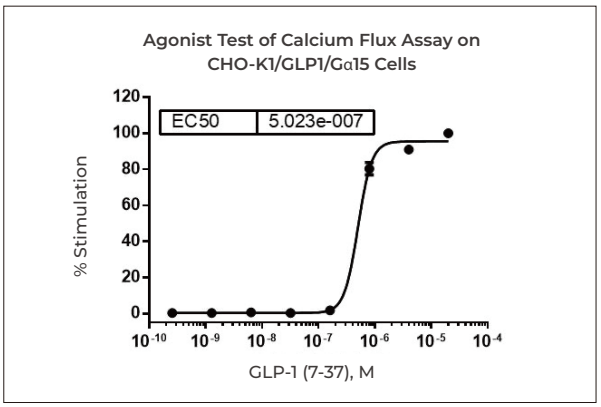


Figure 1. GLP-1 (7-37)-induced concentration dependent stimulation of intracellular calcium mobilization in CHO-K1/GLP1R/Gα15 (GenScript, Cat. No. M00451) cells.

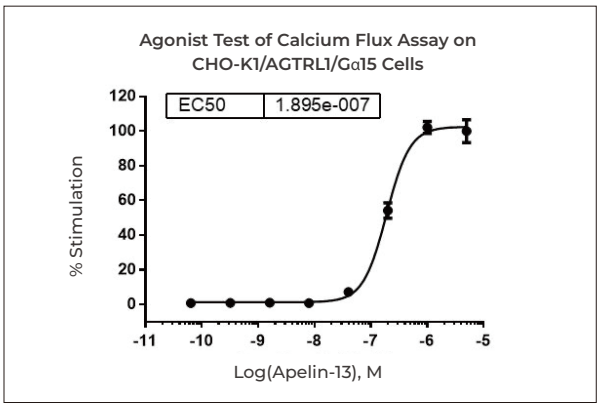


Figure 2. Apelin-13-induced concentration dependent stimulation of intracellular calcium mobilization in CHO-K1/AGTRL1/Gα15 (GenScript, Cat. No. M00245) cells.

cAMP assay

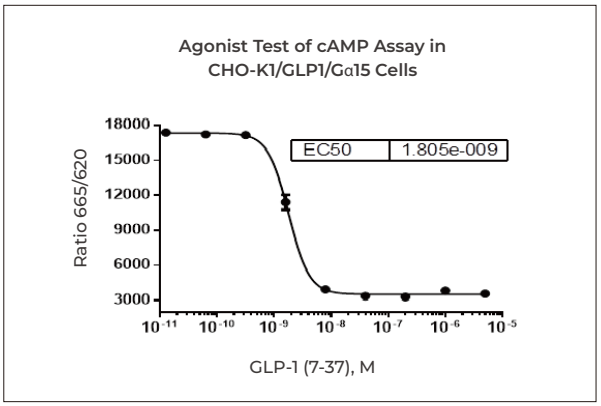


Figure 3. Dose dependent stimulation of intracellular cAMP upon treatment with its ligand GLP-1 (7-37) in CHO-K1/GLP1R/Gα15 (GenScript, Cat. No. M00451) cells.

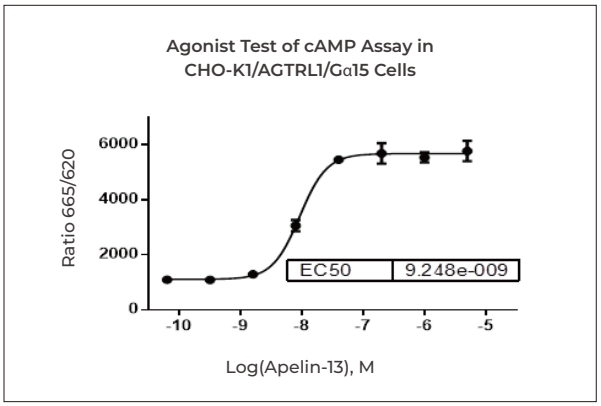


Figure 4. Dose dependent stimulation of intracellular cAMP upon treatment with its ligand Apelin-13 in CHO-K1/AGTRL1/Gα15 (GenScript, Cat. No. M00245) cells.

IP-1 assay

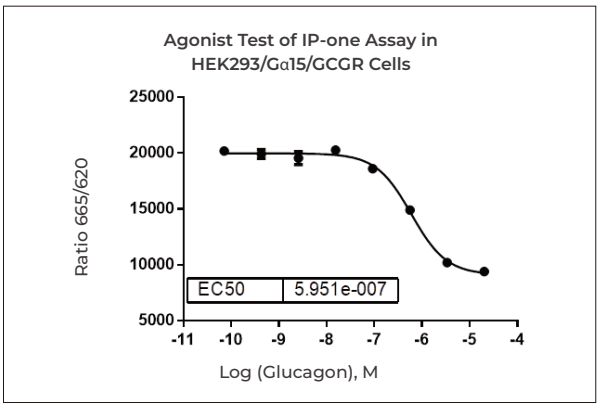


Figure 5. Dose dependent stimulation of intracellular IP-1 upon treatment with its ligand Glucagon in HEK-293/Gα15/GCGR (GenScript, Cat. No. M00422) cells.

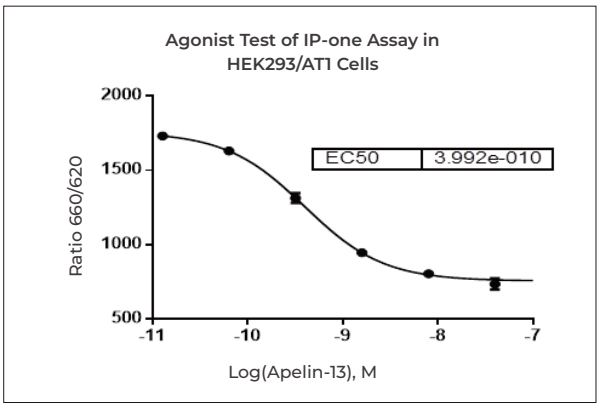


Figure 6. Dose dependent stimulation of intracellular IP-1 upon treatment with its ligand Angiotensin Ⅱ in HEK293/AT1 (GenScript, Cat. No. M00458) cells.

Receptor Family List

Control / Parental cell lines	5-Hydroxytryptamine	Acetylcholine	Adenosine
Adrenoceptors	Angiotensin	Apelin	Bile acid
Bombesin	Bradykinin	Calcitonin	Calcium-sensing
Cannabinoid	Chemerin	Chemokine	Cholecystokinin
Class A Orphan	Complement peptide	Corticotropin-releasing factor	Dopamine
Endothelin	Formylpeptide	Free Fatty Acid	Galanin
Ghrelin	Glucagon	Gonadotropin-releasing hormone	Histamine
Hydroxycarboxylic acid	Kisspeptin receptor	Leukotriene	Lysophospholipid (LPA)
Melanin-concentrating hormone	Melanocortin	Melatonin	Metabotropic glutamate
Motilin	Neuromedin U	Neuropeptide S	Neuropeptide Y
Neurotensin	Neuropeptide FF/AF	Opioid	Orexin
Oxoglutarate	P2Y	Parathyroid hormone	Peptide P518
Platelet-activating factor	Prolactin releasing peptide	Prostanoid	Protease activated
Somatostatin	Tachykinin	Thyrotropin releasing hormone	Urotensin
Vasopressin and Oxytocin	VIP and PACAP		

Product List (Control)

Expressed Protein	Host Cell	Cell Line Name	Cat. No.
Gα15	HEK293	HEK293/Gα15	M00554
Gα15	CHO-K1	CHO-K1/Gα15	M00257
Gqi5	CHO-K1	CHO-K1/Gqi5	M00455

Popular Products (Partial)

Receptors	Cell Line Name	Cat.NO.
AGTRL1	CHO-K1/Gα15/AGTRL1	M00245
AMY1	CHO-K1/Ga15/AMY1	M00557
AMY2	CHO-K1/Ga15/AMY2	M00558
AMY3	CHO-K1/Ga15/AMY3	M00559
MRGPRX2	CHO-K1/MRGPRX2	M00425
GHRHR	HEK293/Gα15/GHRHR	M00314
GLP1R	CHO-K1/Gα15/GLP1R	M00451
GLP2R	CHO-K1/Gα15/GLP2R	M00307
GCGR	CHO-K1/Gα15/GCGR	M00345
GCGR	HEK293/Gα15/GCGR	M00422
GIPR	CHO-K1/Gα15/GIPR	M00486
SCTR	CHO-K1/Gα15/SCTR	M00326
GNRHR	CHO-K1/Gα15/GNRHR	M00426
GHSR	CHO-K1/GHSR	M00189
M1/CHRM1	CHO-K1/M1/CHRM1	M00185
M2/CHRM2	CHO-K1/Gα15/M2/CHRM2	M00258

Receptors	Cell Line Name	Cat.NO.
M3/CHRM3	CHO-K1/M3/CHRM3	M00259
M4/CHRM4	CHO-K1/Gα15/M4/CHRM4	M00238
M5/CHRM5	CHO-K1/M5/CHRM5	M00186
AT1	HEK293/AT1	M00458

For more product lists, please scan the QR code.

Fc Receptor Stable Cell Lines

Leveraging the cell line development capabilities, GenScript has developed single-clone derived CHO-K1 cell lines expressing different classes of Fc gamma receptors (FcγRs) and neonatal Fc receptor (FcRn). The Fc receptor cell line portfolio now includes ten cell lines that express one human FcRn, and six human FcγRs containing polymorphic variants of FcγRIIIa, FcγRIIa and FcγRIIb.

Key Features

- Ready to use for antibody binding, affinity and half-time analyses
- 11 most popular FcγR members including polymorphic versions

Applications

- Determination of binding affinity of antibodies or Fc fusion proteins
- Determination of half-life of antibodies or Fc fusion proteins
- Determination of mechanism of action of antibodies or Fc fusion proteins *in vitro*

Cell Line validation

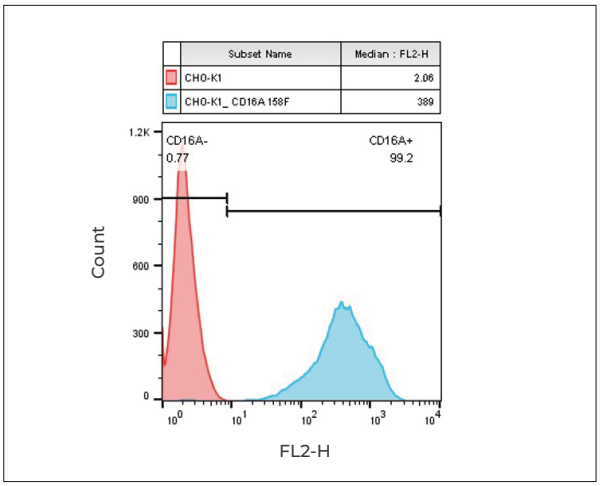


Figure 9. FACS analysis of cell surface expression of CD16A 158F on CHO-K1/CD16A 158F (GenScript, Cat. No. M00586) cells.

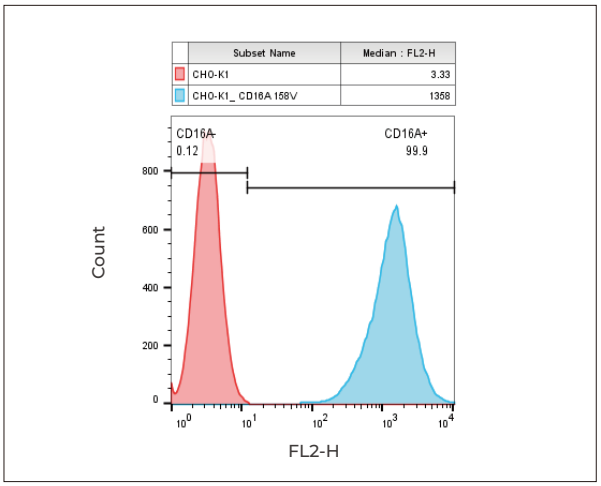


Figure 10. FACS analysis of cell surface expression of human CD16A 158V on CHO-K1/ CD16A 158V (GenScript, Cat. No. M00597) cells.

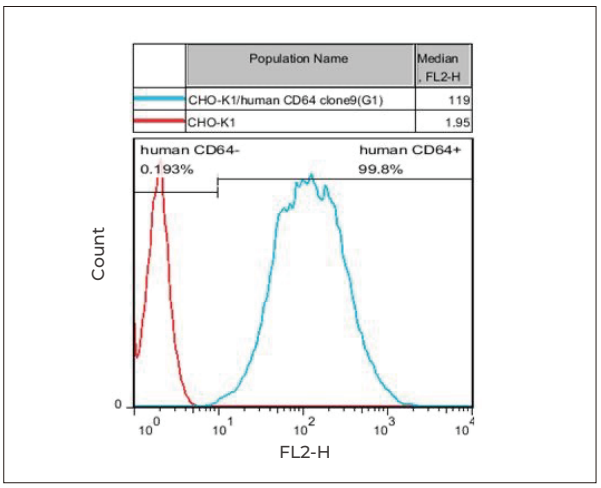


Figure 11. FACS analysis of cell surface expression of CD64 on CHO-K1/CD64 (GenScript, Cat. No. M00588) cells.

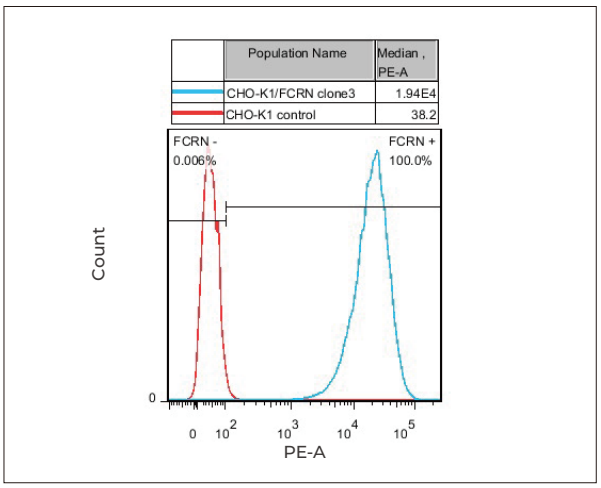


Figure 12. FACS analysis of cell surface expression of FcRn on CHO-K1/FcRn (GenScript, Cat. No. M00603) cells.

Product List

Gene	Receptor	Alias	Cell Line Name	Cat. No.
FCGR3A	FcγRIIIa	CD16A	CHO-K1/CD16A 158F	M00586
			CHO-K1/CD16A 158V	M00597
FCGR3B	FcγRIIIb	CD16B	CHO-K1/CD16B NA1	M00602
			CHO-K1/CD16B NA2	M00999
FCGR2A	FcγRIIa	CD32A	CHO-K1/CD32A 131H	M00598
			CHO-K1/CD32A 131R	M00887
FCGR2B	FcγRIIb	CD32B	CHO-K1/CD32B 232I	M00587
			CHO-K1/CD32B 232T	M00600
FCGR2C	FcγRIIc	CD32C	CHO-K1/CD32C 13GIn	M00601
FCGR1	FcγRI	CD64	CHO-K1/CD64	M00588
FCGRT	FcRn	-	CHO-K1/FcRn	M00603

Immune Checkpoint Stable Cell Lines

Immune checkpoints provide broad and diverse opportunities to enhance T cell activity that can increase anti-tumor immunity, potentially resulting in durable clinical responses. GenScript has developed overexpression cell line products expressing the most popular co-inhibitory and co-stimulatory immune checkpoints of human, mouse and cynomolgus monkey origin to accelerate immunotherapy discovery and clinical translation.

Key Features

- Bioactivity detection: mimics the in vivo process, more reliable
- Stable signal: ideal signal window on the cell line lasts for more than 20 passages
- Cell lines for binding assays: High level surface expression verfied by FACS assay
- Detailed files for assay development and drug approval
- Short turn-around time: One week

Applications

- Screening antibodies binding with immune checkpoints
- Evaluating binding affinity between antibodies with immune checkpoints
- Using as immunogen for antibody development

Cell Line validation

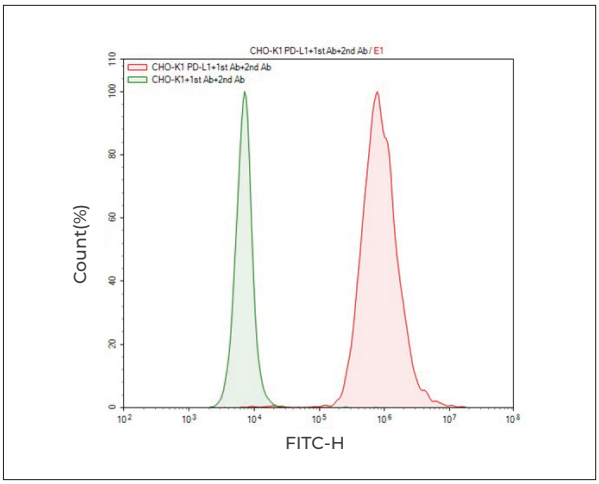


Figure 13. FACS analysis of cell surface expression of PD-L1 on CHO-K1 cells.

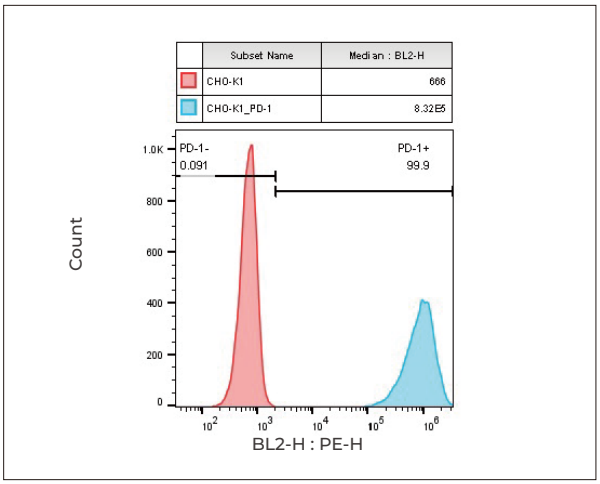


Figure 14. FACS analysis of PD-1 expression in CHO-K1/PD-1 (GenScript, Cat. No. M00529) cells.

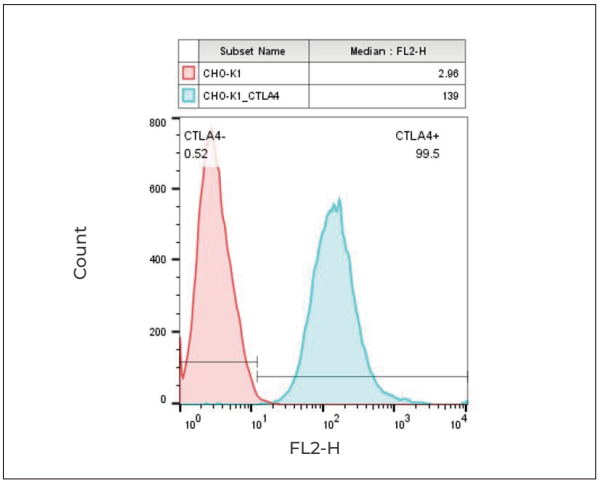


Figure 15. FACS analysis of CTLA4 expression in CHO-K1/CTLA4 (GenScript, Cat. No. M00530) cells.

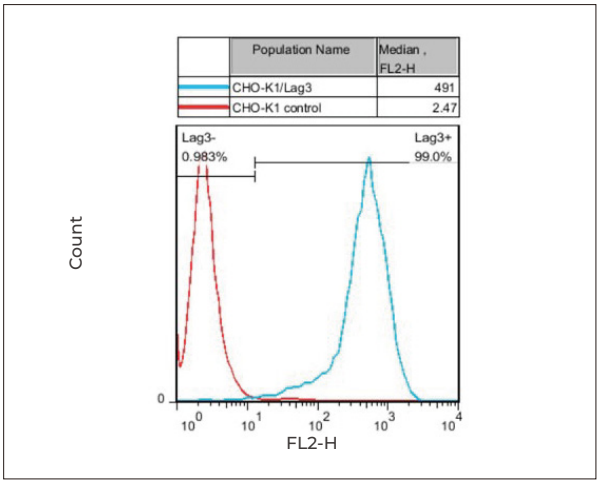


Figure 16. FACS analysis of Lag3 expression in CHO-K1/Lag3 (GenScript, Cat. No. M00532) cells.

Popular Products (Partial)

Immune checkpoint	Cell Line Name	Cat.No.
PD-1	CHO-K1/PD-1	M00529
	CHO-K1/cyno PD-1	M00572
	CHO-K1/ mouse PD-1	M00552
	Jurkat/NFAT-Luc_PD-1	M00612
PD-L1	CHO-K1/aAPC PD-L1	M00613
	HEK293/PD-L1	M00544
	CHO-K1/Mouse PD-L1	M00567
	CHO-K1/Cyno PD-L1	M00573
4-1BB	CHO-K1/4-1BB	M00538
	CHO-K1/Mouse 4-1BB	M00568
	CHO-K1/Cyno 4-1BB	M00569
CTLA4	CHO-K1/CTLA4	M00530
	CHO-K1/Mouse CTLA4	M00570
	CHO-K1/Cyno CTLA4	M00571
Tim3	CHO-K1/Tim3	M00531
LAG3	CHO-K1/LAG3	M00532
VISTA	CHO-K1/Mouse VISTA	M00633
	CHO-K1/Cyno VISTA	M00634
	CHO-K1/VISTA	M00533
...	...	...

For more product lists, please scan the QR code.

ACE2 and Spike Protein Stable Cell Lines

Spike protein of SARS-CoV-2 (previously named 2019-nCoV) is composed of a S1 domain and S2 domain. The S1 domain contains a receptor-binding domain (RBD) that can specifically bind to angiotensin-converting enzyme 2 (ACE2), the receptor on target cells. Studies demonstrate that ACE2 serves as the cell surface receptor to bind S protein in SARS-CoV-2 and facilitates entry of these coronaviruses into the cell. GenScript has developed single clone-derived stable cell lines with high expression of Spike protein of SARSCoV-2 or human ACE2 to assist and accelerate COVID-19 research.

Key Features

- Single clone cell line
- Full length expression of target proteins on surface of host cells
- Stable expression over passages
- Easy to use in binding assays or as immunogen

Applications

- Screening neutralizing antibodies that block SARS-CoV-2 pseudovirus transfection.
- Screening antibodies against with ACE2 or Spike protein of SARS-CoV-2.
- Evaluating binding affinity between antibodies with ACE2 or Spike protein of SARS-CoV-2.
- Using as immunogen for antibody development.

Cell Line validation — M00770

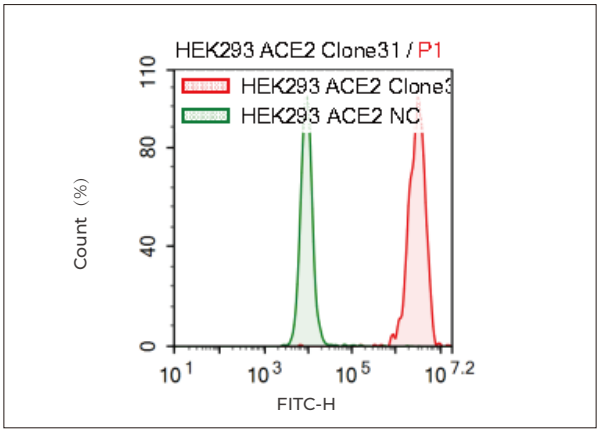


Figure 17. FACS analysis of cell surface expression of ACE2 on HEK293 cells.

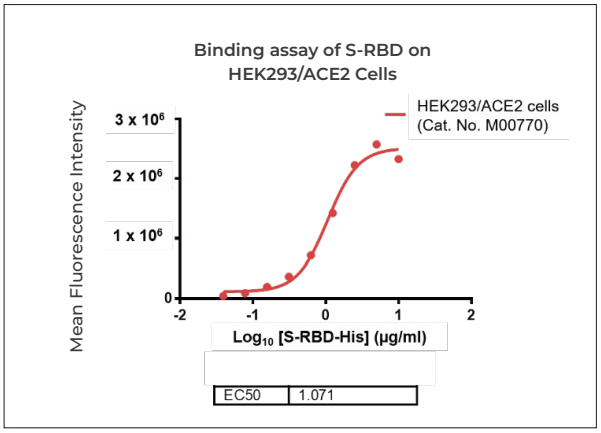


Figure 18. Cell-based binding assay of SARS-CoV-2 spike protein RBD with HEK293/ACE2 cells.

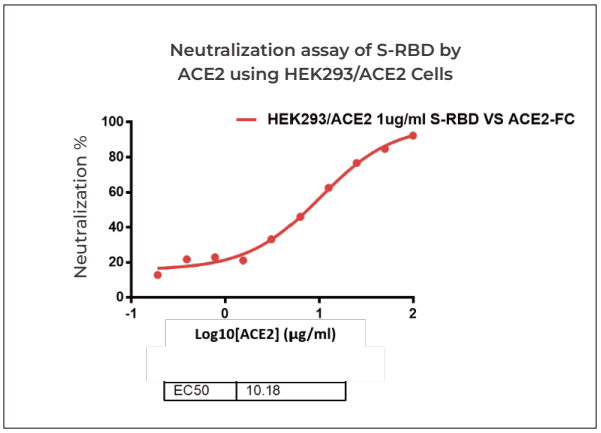


Figure 19. Neutralization assay of SARS-CoV-2 spike protein RBD by ACE2-Fc fusion proteins on HEK293/ACE2 cells.

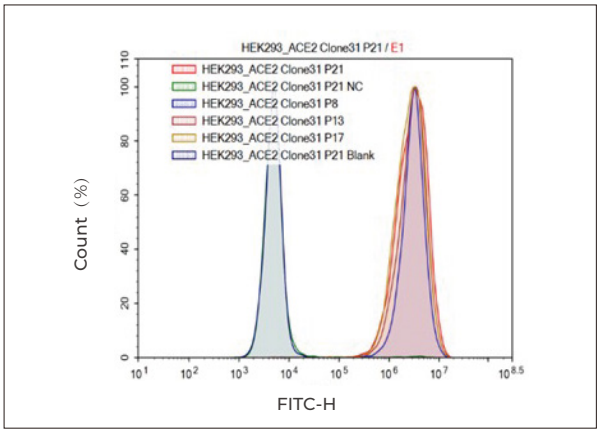


Figure 20. FACS analysis of cell surface expression of ACE2 on HEK293 cells from different passages.

Product List

Protein of Expression	Cell Line Name	Cat.NO.
ACE2	HEK293/ACE2 Stable Cell Line	M00770
ACE2	CHO-K1/ACE2 Stable Cell Line	M00771
SARS-CoV-2 Spike protein	CHO-K1/Spike Stable Cell Line	M00803
SARS-CoV-2 Spike protein	HEK293T/Spike Stable Cell Line	M00804

CLDN18.2 Stable Cell Lines

Claudin 18 isoform 2 (CLDN 18.2) is highly selective biomarker with limited expression in normal tissues and often abnormal expression during the occurrence and development of various primary malignant tumors.

Key Features

- Single clone cell line
- Full length expression of CLDN18.2 protein on surface of host cells
- Stable expression over passages
- Easy to use in binding assays or as immunogen

Cell Line validation

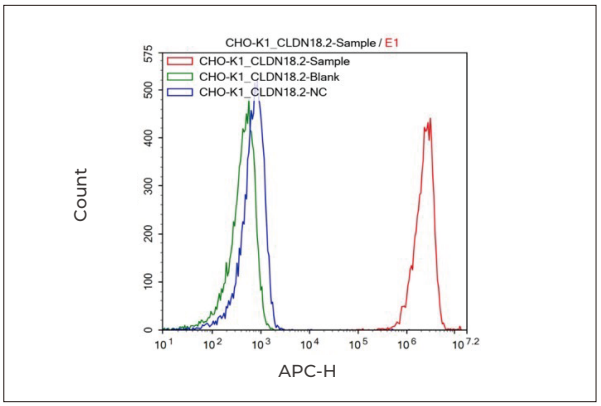


Figure 26. FACS analysis of CLDN18.2 expression in CHO-K1/CLDN18.2 (GenScript, Cat.M00916) cells.

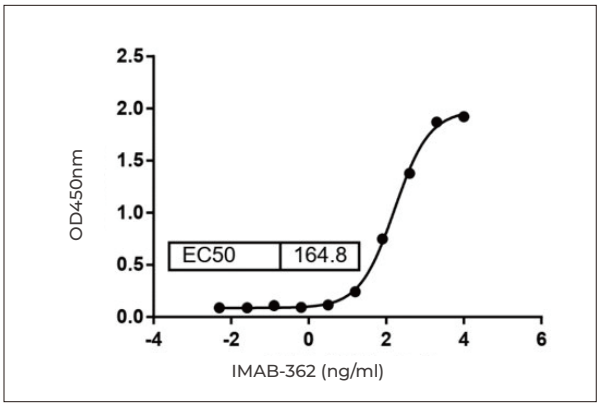


Figure 27. Cell based ELISA of CLDN18.2 expression in CHO-K1/ CLDN18.2 clone.

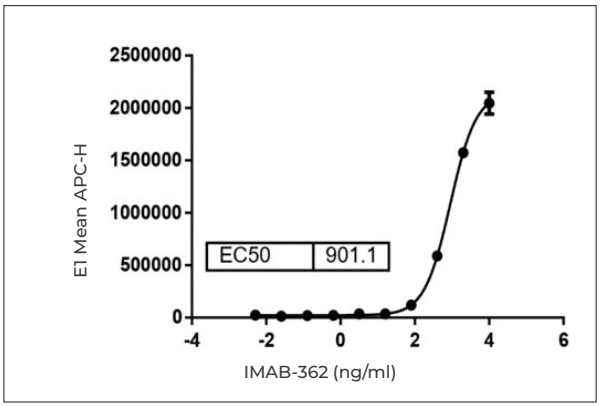


Figure 28. Immune assay of CLDN18.2 expression in CHO-K1/ CLDN18.2 cells.

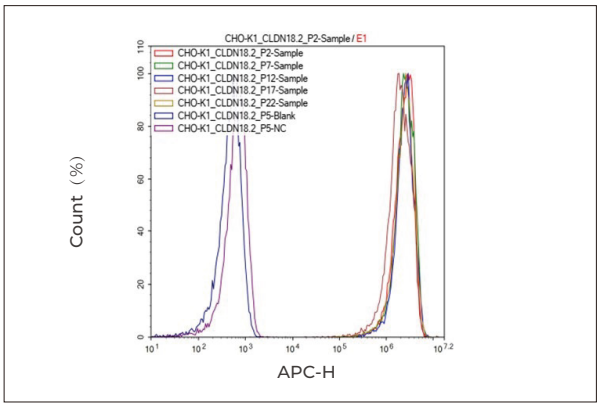


Figure 29. Stability testing of CLDN18.2 expression in CHO-K1/ CLDN18.2 cells.

Product List

Protein of Expression	Cell Line Name	Cat.NO.
CLDN18.2	CHO-K1/CLDN18.2 Stable Cell Line	M00916
CLDN18.2	HEK293/CLDN18.2 Stable Cell Line	M00917

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