

CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line Data Sheet

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CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line Data Sheet

CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line

Catalog No.	Size
CCHO-ATP312	2 × (1 vial contains ~5×10 ⁶ cells)

• *Description*

The CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line was engineered to express the high-affinity IgE receptor, consisting of full length human MS4A2 (Uniprot: Q01362), FCER1G (Uniprot: P30273), and FCER1A (Uniprot: P12319). Surface expression of human FCER1A and its binding ability to human IgE were confirmed by flow cytometry.

• *Application*

- Useful for cell-based FCER1A binding assay
- Screen for neutralizing antibodies blocking the binding of human IgE

• *Cell Line Profile*

Cell line	CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line
Host Cell	CHO
Property	Adherent
Complete Growth Medium	F-12K + 10% FBS
Selection Marker	Puromycin (2 µg/mL)
Incubation	37°C with 5% CO ₂
Doubling Time	22-24 hours
Transduction Technique	Lentivirus

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• *Materials Required for Cell Culture*

- F-12K Nutrient Mixture (BasalMedia, Cat. No. L450KJ)

Note: If you are unable to obtain the specified F-12K Nutrient Mixture (BasalMedia, Cat. No. L450KJ), you may use an alternative F-12K Nutrient Mixture (Gibco, Cat. No. 21127-022) or another suitable medium for culturing.

- Fetal bovine serum (CellMax, Cat. No. SA211.02)
- Puromycin (InvivoGen, Cat. No. ant-pr-5b)

Note: For selection antibiotics, we highly recommend using the specified brand. The activity of antibiotics may vary between manufacturers, so if you choose to use a different brand, it is essential to validate whether the concentration recommended in the culture medium is suitable. Regardless of the brand used, we recommend maintaining a backup culture without selection antibiotics to avoid potential cell loss due to inappropriate antibiotic concentration.

- 0.25% Trypsin-EDTA (1X), Phenol Red (Gibco, Cat. No. 25200-056)
- Penicillin-Streptomycin (Gibco, Cat. No. 15140-122)
- Phosphate Buffered Saline (1X) (HyClone, Cat. No. SH30256.01)
- Complete Growth Medium: F-12K + 10% FBS, 1%P/S
- Culture Medium: F-12K + 10% FBS, Puromycin (2 µg/mL), 1% P/S
- Freeze Medium: 90% FBS, 10% (V/V) DMSO
- T-75 Culture flask (Corning, Cat. No. 430641)
- Cryogenic storage vials (SARSTEDT, Cat. No. 72.379.007)
- Thermostat water bath
- Centrifuge (Cence, Model: L550)
- Cell counter (MONWEI, Model: SmartCell200A Plus)
- CO₂ Incubator (Thermo, Model: 3111)
- Biological Safety Cabinet (Thermo, Model: 1389)

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• *Recovery*

1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize the risk of contamination, ensure the cap remains out of the water. Thawing should be completed quickly, typically within 3-5 minutes.
2. After thawing, promptly remove the vial from the water bath and decontaminate it by spraying with 70% ethanol. From this point onward, all operations must be performed under strict aseptic conditions.
3. Transfer the contents of the vial to a centrifuge tube containing 4.0 mL of complete growth medium. Centrifuge at approximately 1000 rpm for 5 minutes.
4. Resuspend the cell pellet with 5 mL **complete growth medium** and transfer the cell suspension into a T-75 flask containing 10-15 mL of pre-warmed **complete growth medium**.
5. Incubate at 37°C with 5% CO₂ incubator until the cells are ready to be split.

• *Subculture*

1. Cell viability may be low after thawing, and full recovery may take up to a week. Monitor the cells daily until the culture reaches 80-90% confluency. At this point, remove and discard the spent medium. Avoid allowing the cells to become over-confluent to ensure optimal cell health.
2. Wash the cells once with sterile PBS. Avoid adding PBS directly onto the cell surface.
3. Add 3 mL of 0.25% Trypsin-EDTA to the T-75 flask. Place the flask at 37°C for 5-7 minutes, until 90% of the cells have detached. Monitor under a microscope to avoid over-trypsinization.
4. Add 6.0 to 8.0 mL of **culture medium** using a pipette and gently rinse the cells from the surface of the T-75 flask. Gently pipette up and down several times to achieve a single cell suspension without cell clumps.
5. Transfer appropriate aliquots of the cell suspension to a new T-75 flask. A subcultivation ratio of 1:6 to 1:10 is recommended. Adjust the ratio based on your specific culture system.
6. Incubate at 37°C with 5% CO₂ incubator.
7. When the cell culture reaches 80-90% confluency, proceed to the next subculture. Avoid over-confluency, as this may negatively impact cell performance in subsequent passages.

Note: After recovery, maintain the cells for 1-2 passages in the complete growth medium not containing the selection marker, if the cells are in good condition, transition to the culture medium containing the selection marker during subculturing.

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• *Cryopreservation*

1. When the cell culture reaches 80-90% confluency, remove and discard the spent medium.
2. Wash the cells once with sterile PBS. Avoid adding PBS directly onto the cell surface.
3. Add 3 mL of 0.25% Trypsin-EDTA to the T-75 flask. Place the flask at 37°C for 5-7 minutes, until 90% of the cells have detached. Monitor under a microscope to avoid over-trypsinization.
4. Add 6.0 to 8.0 mL of complete growth medium using a pipette and gently rinse the cells from the surface of the T-75 flask. Gently pipette up and down several times to achieve a single cell suspension without cell clumps. Count the viable cells.
5. Transfer the cell suspension to a centrifuge tube. Centrifuge at 1000 rpm for 5 min at room temperature to pellet the cells.
6. After centrifugation, discard the supernatant. Resuspend the cells in ice cold freezing medium to a concentration of 5×10^6 to 1×10^7 cells/mL.
7. Aliquot the cell suspension into cryogenic storage vials. Place the vials in a programmable cooler or an insulated box placed in a -80°C freezer overnight, then transfer to liquid nitrogen storage for long-term storage.

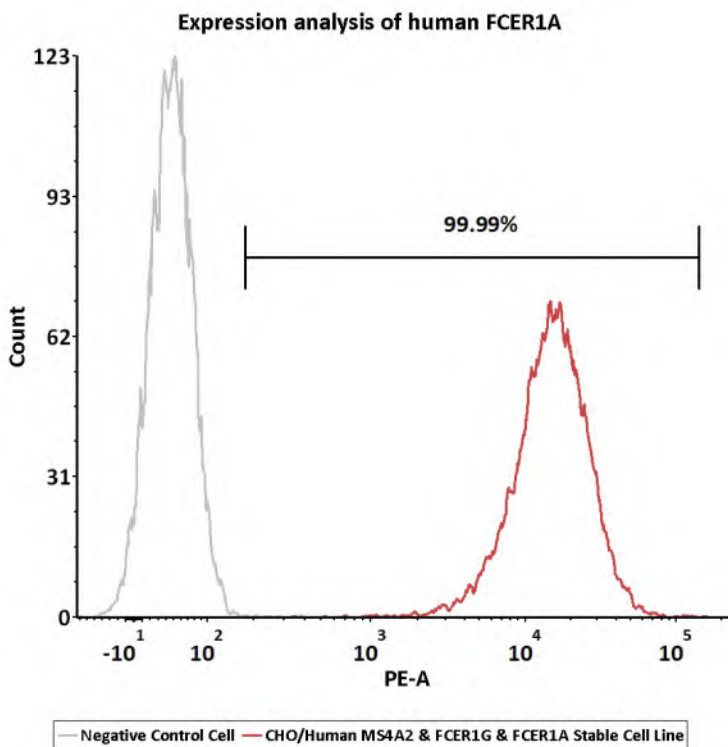
Note: It is recommended to establish a cell bank at the earliest possible passage for long-term use.

• *Storage Condition*

Cells must be received in a frozen state on dry ice and should be transferred to liquid nitrogen or a -80°C freezer immediately upon receipt. If stored in a -80°C freezer, it is recommended to limit the storage period to no more than two weeks. For long-term preservation, transfer the cells to liquid nitrogen is highly recommended.

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• Receptor Assay



Catalog No.	Stable Cell Line	MFI for FCER1A (PE)
NA	Negative Control Cell	44.29
CCHO-ATP312	CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line	14647.54

Fig1. Expression analysis of human FCER1A on CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line by FACS. Cell surface staining was performed on CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line or negative control cell using PE-labeled anti-human FCER1A antibody.

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• Application

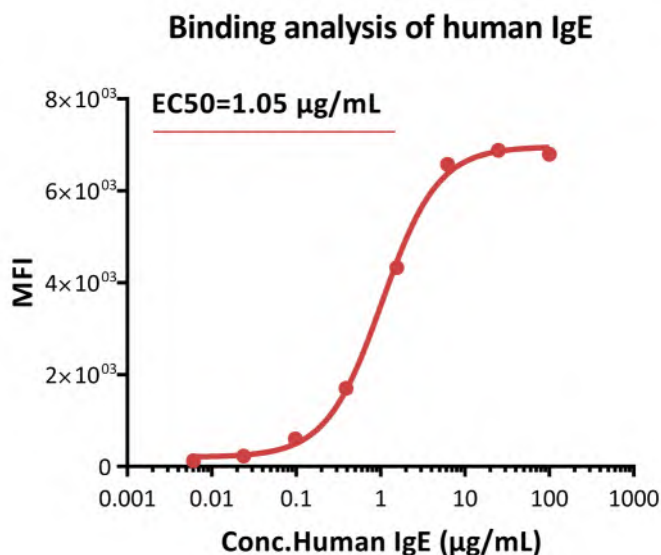


Fig2. Binding analysis of human IgE on CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line by FACS. The CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line was incubated with serial dilutions of human IgE. The EC50 of human IgE was approximately 1.05 µg/mL.

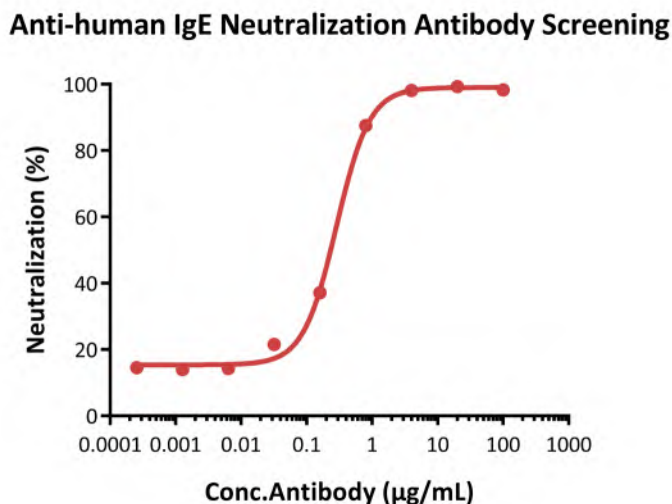
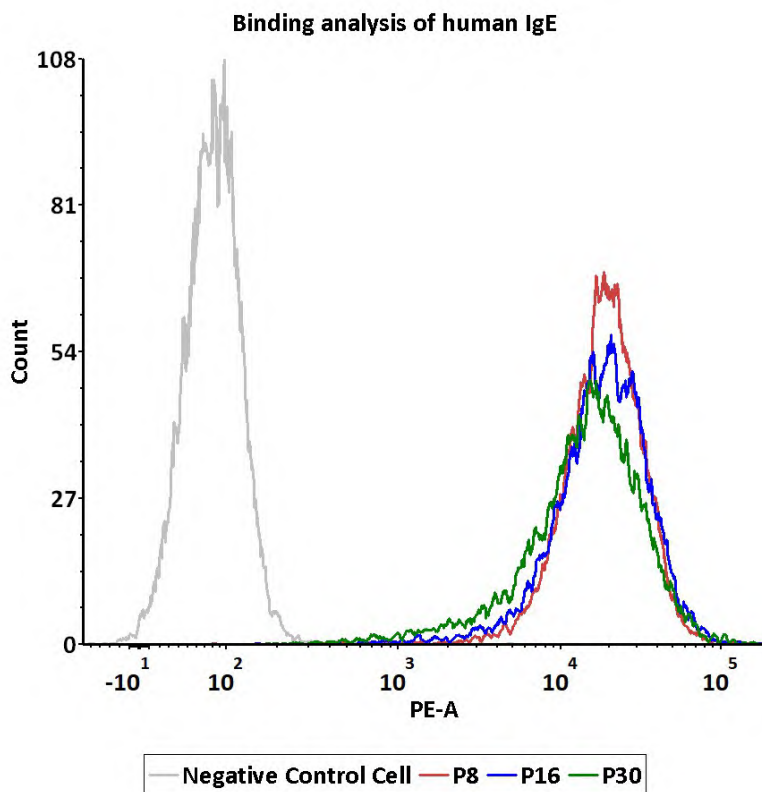


Fig3. Inhibition of human IgE binding to CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line by anti-human IgE Neutralizing Antibody. The CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line was incubated with serial dilutions of antibodies in the presence of human IgE with a final concentration of 1 µg/mL. The EC50 of anti-human IgE neutralizing antibody (Ozureprubart) was approximately 0.29 µg/mL.

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• Passage Stability



Passage	MFI for IgE binding (PE)
P8	18314.10
P16	18159.50
P30	14660.31

Fig4. Passage stability analysis of the high-affinity IgE receptor expression by FACS. Flow cytometry surface staining of human IgE binding to CHO/Human MS4A2 & FCER1G & FCER1A Stable Cell Line demonstrates consistent mean fluorescent intensity across passage 8-30.

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• Related Products

Products

Cat.No.

Human TSLP R (Luc) HEK293 Reporter Cell	CHEK-ATF045
STAT3 (Luc) HEK293 Reporter Cell	CHEK-ATF047
HEK293/Human CD40 Ligand / TNFSF5 Stable Cell Line	CHEK-ATP041
HEK293/Human OX40 / TNFRSF4 / CD134 Stable Cell Line	CHEK-ATP053
HEK293/Human OX40 Ligand / TNFSF4 Stable Cell Line	CHEK-ATP054
Human IL-5 R alpha/CD131 (Luc) HEK293 Reporter Cell	CHEK-ATF074
HEK293/FcRn (FCGRT & B2M) Cell Line	CHEK-ATP079
Human IL-21 R (Luc) HEK293 Reporter Cell	CHEK-ATF051
Human IL-11 R alpha (Luc) HEK293 Reporter Cell	CHEK-ATF052
Human IL-4 R alpha/IL-13 R alpha 1 (Luc) HEK293 Reporter Cell	CHEK-ATF075
CHO/Human TSHR Stable Cell Line	SCCHO-ATP085
HEK293/Human TSHR Stable Cell Line	CHEK-ATP086
Human IL-31 RA/OSMR (Luc) HEK293 Reporter Cell	CHEK-ATF094
Human IL-10 R alpha/IL-10 R beta (Luc) HEK293 Reporter Cell	CHEK-ATF095
Human CD40 (Luc) HEK293 Reporter Cell	CHEK-ATF097
Human IL-7 R alpha/CD132 (Luc) HEK293 Reporter Cell	CHEK-ATF099
NIH-3T3/Human IGF-1 R Stable Cell Line Development Service	CNIH-ATP102
Human HVEM (Luc) HEK293 Reporter Cell	CHEK-ATF105
Human BTLA (Luc) Jurkat Reporter Cell	SCJUR-STF106
Human IGF-1 R (Luc) HEK293 Reporter Cell	CHEK-ATF107
Human GLP-2R (Luc) HEK293 Reporter Cell	CHEK-ATF128
Human RANK (Luc) HEK293 Reporter Cell	CHEK-ATF129
HEK293/FcRn (FCGRT & B2M), GFP Tag Stable Cell Line	CHEK-ATP132
Human IL-17 RA/IL-17 RC (Luc) HEK293 Reporter Cell	CHEK-ATF133
Human OX40 (Luc) HEK293 Reporter Cell	CHEK-ATF135
Human IL-2 R beta/IL-2 R gamma (Luc) HEK293 Reporter Cell	CHEK-ATF136
HEK293/Human TL1A Stable Cell Line	CHEK-ATP142
Human IL-23 R/IL-12 R beta 1(Luc) HEK293 Reporter Cell	CHEK-ATF166

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• Related Products

Products

Cat.No.

Human IL-22 R alpha 1/IL-10 R beta (Luc) HEK293 Reporter Cell	CHEK-ATF167
Human DR3 (TL1A receptor) (Luc) Jurkat Reporter Cell	SCJUR-STF178
Human TSHR (Luc) HEK293 Reporter Cell	CHEK-ATF187
CHO/Mouse FCGRT-P2A-mGFP&B2M Stable Cell Line	SCCHO-ATP193
Human PTH1R (Luc) HEK293 Reporter Cell	CHEK-ATF194
MDCK/Mouse FCGRT-P2A-mGFP&B2M Stable Cell Line Development Service	SCMDC-ATP196
Human TACI (Luc) HEK293 Reporter Cell	CHEK-ATF197
HEK293/Membrane-Bound Human TL1A Stable Cell Line	CHEK-ATP198
Human IL-2 R alpha & IL-2 R beta & IL-2 R gamma (Luc) HEK293 Reporter Cell	CHEK-ATF201
Human IL-1 R1 & IL-1 RAcP (Luc) HEK293 Reporter Cell	CHEK-ATF202
Raji/Membrane-Bound Human TL1A Stable Cell Line	SCRAJ-STT204
HEK293/Human MRGPRX2 Stable Cell Line	CHEK-ATP214
CHO/Human MRGPRX2 Stable Cell Line	SCCHO-ATP215
Human TPO R (Luc) HEK293 Reporter Cell	CHEK-ATF226
CHO/Human CD89 Stable Cell Line	SCCHO-ATP225
Raji/Human TL1A Stable Cell Line	CRAJ-STP232
Human IL-18 R1/IL-18 R beta (Luc) HEK293 Reporter Cell	CHEK-ATF233
Human IL-17 RA/IL-17 RB (Luc) HEK293 Reporter Cell	CHEK-ATF239
CHO/Human MAdCAM-1 Stable Cell Line	CCHO-ATP241
HEK293/Human Integrin alpha 4 beta 7 (ITGA4&ITGB7) Stable Cell Line	CHEK-ATP243
Human IL-1RL1 & IL-1 RAcP (IL-33 receptor) (Luc) HEK293 Reporter Cell	CHEK-ATF244
Jurkat/Human Transmembrane TNF-alpha (mTNF) Stable Cell Line	CJUR-STF248
CHO/Human CXCR3 Stable Cell Line	CCHO-ATP252
HEK293/Human CXCR3 Stable Cell Line	CHEK-ATP253
Human Glucocorticoid Receptor (Luc) HEK293 Reporter Cell	CHEK-ATF264

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• *Related Products*

Products

Cat.No.

Human PD-1 & IL-2 R alpha & IL-2 R beta & IL-2 R gamma (Luc) HEK293 Reporter Cell	CHEK-ATF265
Human OSMR & gp130 (OSM receptor) (Luc) HEK293 Reporter Cell	CHEK-ATF311
Human BCMA (Luc) HEK293 Reporter Cell	CHEK-ATF296
Human BCMA (Luc) Jurkat Reporter Cell	CJUR-STF295
Jurkat/Human TRBV9 & Luc Stable Cell Line	CJUR-STP292
Jurkat/Human TRBV9 Stable Cell Line	CJUR-STP293
Raji/Luc & Human CD19 & CD20 Double Knockout Stable Cell Line	CRAJ-STK284
Raji/Luc & Human CD20 Knockout Stable Cell Line	CRAJ-STK285
Raji/Luc & Human CD19 Knockout Stable Cell Line	CRAJ-STK286
HEK293/Membrane-Bound cynomolgus TL1A Stable Cell Line	CHEK-ATP310