CHO-K1 Human CLDN18.1 Cell Line

Cat. No: KC-1181 Version 18121201

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I. Cell Line Information

Catalog number	KC-1181
Cell line name:	CHO-K1 Human CLDN18.1 Cell Line
Gene ID/Accession #:	NM_016369.4
Host cell line	CHO-K1
Cell type:	Chinese hamster ovary cell line
Description:	CHOK1 cell line stable expressing exogenous human CLND18 gene isoform 1
Quantity:	One vial of frozen cells ($5X10^6$ per vial)
Stability:	Stable in culture over a minimum of 10 passages
Application:	Drug screening and biological assays
Freeze medium:	70% F12K + 20% FBS + 10% DMSO
Propagation medium:	F12K + 10% FBS + 6ug/ml Puromycin
Selection marker:	Puromycin
Morphology:	Epithelial
Subculture:	Split saturated culture 1:4~1:8 every 2~3 days; seed out at about 1-2 x 10^5 cells/ml
Incubation:	37 °C with 5% CO_2
Doubling time:	Approximately 24 hours
Mycoplasma status:	Negative
Biosafety level:	1
Storage:	Liquid nitrogen immediately upon receiving

II. Background

CLDN18.1 is the isoform 1 of the claudin 18 gene, which belong to the lager claudin family and play the important role in cell tight junction in epithelial cells. The other isoform, CLND18.2, is found overexpressed on gastrointestinal adenocarcinoma and pancreatic tumors. The identification as a tumor target of CLDN18.2 has led to the repaid progress of antibody treatment of gastrointestinal adenocarcinoma and pancreatic tumors, such as IMAB362 (Claudiximab).

III. Cell Line Generation

CHOK1 human CLDN18.1 cell line was generated using lentiviral vector expressing human CLDN18.1 sequence.

IV. Characterization using intracellular FACS

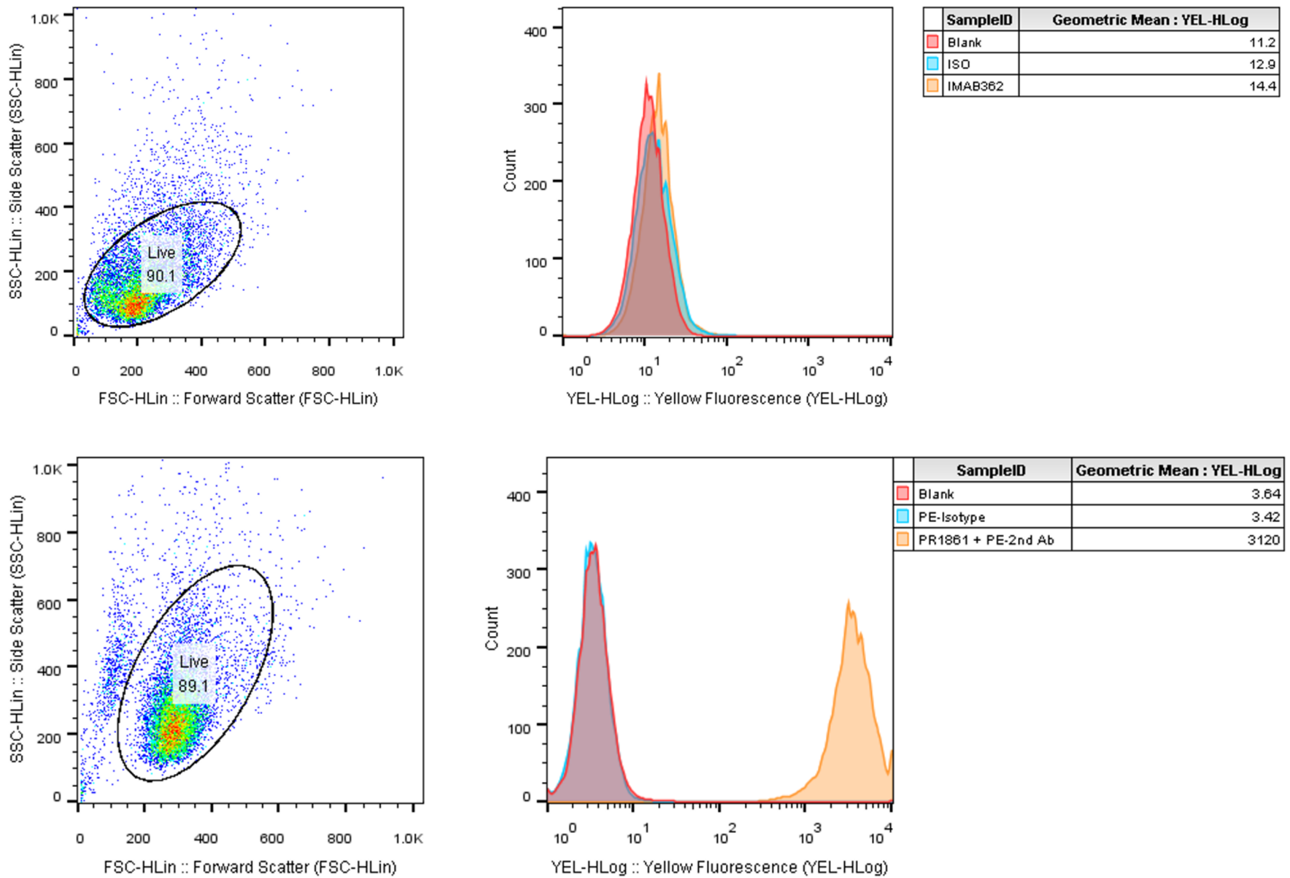

Figure: Characterization of CLDN18.1 overexpressing in CHOK1 stable clones using FACS.

V. Application

Hybridoma or Binders of ligand screening with FACS.

VI. Cell Resuscitation

1. Prewarm culture medium (F12K supplemented with 10% FBS and 6ug/ml puromycin) in a 37°C water bath.
2. Thaw the frozen vial in a 37°C water bath for 1-2 minutes.
3. Transfer the vial into biosafety cabinet and wipe the surface with 70% ethanol.
4. Unscrew the top of the vial and transfer the cell suspension gently into a sterile centrifuge tube containing 9.0 mL complete culture medium.
5. Spin at ~ 125 x g for 5~7 minutes at room temperature and discard the supernatant without disturbing the pellet.
6. Resuspend cell pellet with the appropriate volume of complete medium and transfer the cell suspension into a T25 culture flask.

7. Incubate the flask at 37°C, 5% CO_2 incubator.
8. Split saturated culture 1:4 ~ 1:8 every 2~3 days; seed out at about 1-2 x 10^5 cells/ml.

VII. Cell Freezing

1. Prepare the freezing medium (70% F12K + 20% FBS + 10% DMSO) fresh immediately before use.
2. Keep the freezing medium on ice and label cryovials.
3. Trypsin and harvest cells to a sterile, conical centrifuge tube during the logarithmic growth period and count the cells.
4. Centrifuge the cells at 250 x g for 5 minutes at room temperature and carefully aspirate off the medium.
5. Resuspend the cells at a density of at least 3 x10^6 cells/ml in chilled freezing medium.
6. Aliquot 1 ml of the cell suspension into each cryovial.
7. Freeze cells in the CoolCell freezing container overnight in a −80°C freezer.
8. Transfer vials to liquid nitrogen for long-term storage.

VIII. References

1. Micke, Patrick, Johanna Sofia Margareta Mattsson, Karolina Edlund, Miriam Lohr, Karin Jirström, Anders Berglund, Johan Botling, et al. 2014. “Aberrantly Activated Claudin 6 and 18.2 as Potential Therapy Targets in Non-Small-Cell Lung Cancer.” International Journal of Cancer 135 (9): 2206–14. doi:10.1002/ijc.28857.
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