

293T human ROR1 Cell Line

Cat. No: KC-1018

Version 18061502

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I. Cell Line Information

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| Catalog number | KC-0615 |
| Cell line name: | 293T human ROR1 Cell Line |
| Gene ID/Accession #: | NM_005012.3 |
| Host cell line | 293T |
| Cell type: | Human embryonic kidney |
| Description: | HEK293T cell line stable expressing exogenous human ROR1 gene |
| 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% DMEM + 20% FBS + 10% DMSO |
| Propagation medium: | DMEM + 10% FBS + 0.5ug/ml Puromycin |
| Selection marker: | Puromycin |
| Morphology: | Fibroblastoid cells growing as monolayer |
| Subculture: | Split saturated culture 1:4~1:5 every 2~3 days; seed out at about 1-3 x 10 ⁵ cells/ml |
| Incubation: | 37 °C with 5% CO ₂ |
| Doubling time: | Approximately 30 hours |
| Mycoplasma status: | Negative |
| Biosafety level: | 1 |
| Storage: | Liquid nitrogen immediately upon receiving |

II. Background

ROR1, also named as NTRKR1, is a transmembrane protein belong to the receptor tyrosine kinase-like orphan receptor (ROR) family. ROR1 modulates neurite growth in the central nervous system. ROR1 has recently found to be overexpressed on cancer stem cell, which play a function role in promoting cancer cell migration, invasion or spheroid formation.

III. Cell Line Generation

293T human ROR1 cell line was generated using lentiviral vector expressing human ROR1 sequence.

IV. Characterization using FACS

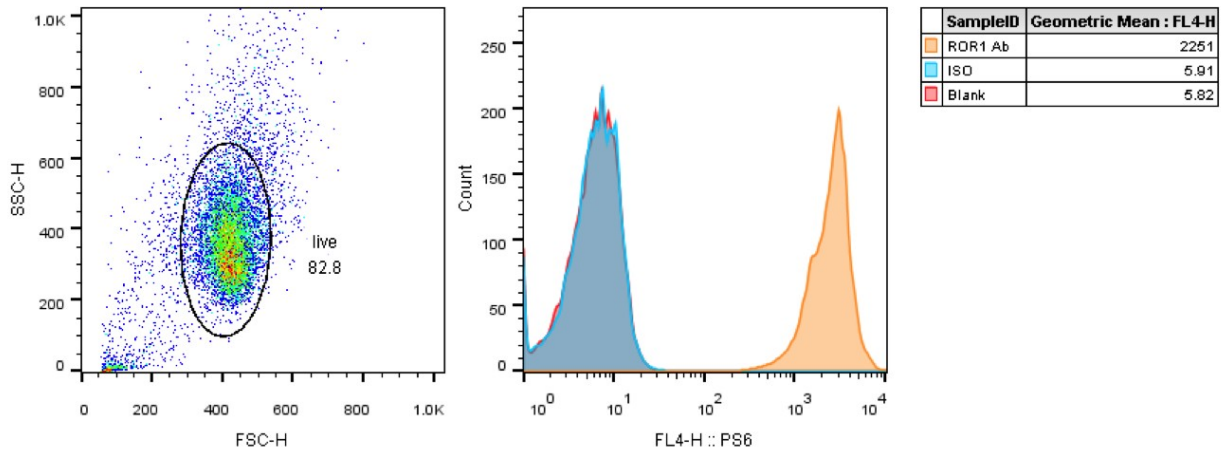


Figure: Characterization of ROR1 overexpressing in 293T stable clones using FACS.

V. Application

Hybridoma or Binders of ligand screening with FACS.

VI. Cell Resuscitation

1. Prewarm culture medium (DMEM supplemented with 10% FBS and 0.5ug/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% CO₂ incubator.
8. Split saturated culture 1:4 ~ 1:5 every 2~3 days; seed out at about 1-3 x 10⁵ cells/ml.

VII. Cell Freezing

1. Prepare the freezing medium (70% DMEM + 20% FBS + 10% DMSO) fresh immediately before use.
2. Keep the freezing medium on ice and label cryovials.
3. 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 3×10^6 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. Masiakowski P, Carroll RD (Dec 1992). "A novel family of cell surface receptors with tyrosine kinase-like domain". *The Journal of Biological Chemistry*. 267 (36): 26181-90.
2. Reddy UR, Phatak S, Allen C, Nycum LM, Sulman EP, White PS, Biegel JA (Apr 1997). "Localization of the human Ror1 gene (NTRKR1) to chromosome 1p31-p32 by fluorescence in situ hybridization and somatic cell hybrid analysis". *Genomics*. 41 (2): 283-5.
3. Baskar S, Kwong KY, Hofer T, Levy JM, Kennedy MG, Lee E, Staudt LM, Wilson WH, Wiestner A, Rader C (Jan 2008). "Unique cell surface expression of receptor tyrosine kinase ROR1 in human B-cell chronic lymphocytic leukemia". *Clinical Cancer Research*. 14(2): 396-404.

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