

# GFRA1 Knockout 293T Cell Line, Homozygous

**Catalog No.: RM02441**

## Basic Information

**Catalog No.**

RM02441

**Category**

Cell Line

**Parental Cell line**

293T

**Genotype**

Knockout

## Gene Information

**Gene Symbol**

GFRA1

**Species**

Human

**Gene ID**

2674

**Swiss Prot**

P56159

**Synonyms**GDNFR; GDNFRA; GFR-ALPHA-1; RET1L;  
RET1L; TRNR1

## Contact

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## Background

This gene encodes a member of the glial cell line-derived neurotrophic factor receptor (GDNFR) family of proteins. The encoded preproprotein is proteolytically processed to generate the mature receptor. Glial cell line-derived neurotrophic factor (GDNF) and neurturin (NTN) are two structurally related, potent neurotrophic factors that play key roles in the control of neuron survival and differentiation. This receptor is a glycosylphosphatidylinositol (GPI)-linked cell surface receptor for both GDNF and NTN, and mediates activation of the RET tyrosine kinase receptor. This gene is a candidate gene for Hirschsprung disease. Alternative splicing results in multiple transcript variants, at least one of which encodes a preproprotein that is proteolytically processed. [provided by RefSeq, Jan 2016]

## Product Information

**Description**

GFRA1 Knockout 293T Cell line is engineered from 293T cell line with Gene-Editing Technology.

Allele-1:79bp deletion in exon2

Allele-2:91bp deletion in exon2

Mammalian cells such as human, rat and mouse cells are normally diploid with two alleles. Homozygote: both alleles were knocked out, mRNA has no signal, no expression of proteins. Heterozygote: only one allele was knocked out, the mRNA transcript levels was decreased compared to wild type, and the protein expression levels was also lower than that of the wild type.

**Packaging**

1 vial parental cell line and 1 vial knockout cell line

**Shipping Conditions**

Dry ice

**Amount**

1~5x10<sup>6</sup> cells/vial

**Storage**

Stored in liquid nitrogen for a long time less than -130°C. Minimizing freeze-thaw cycles.

**Protocol**

Upon arrival, it should be maintained in DMEM medium with 10%(v/v) fetal bovine serum and 100U penicillin-streptomycin, at 37°C with 5% CO<sub>2</sub> condition.

1. Thaw the vial in 37°C water bath, and shake it to melt as soon as possible.
2. Transfer the cell suspension to a 15mL conical tube with pre-warmed 5mL complete medium and centrifuge 1000rpm for approximately 5 minutes at room temperature.
3. Remove and discard the supernatant.
4. Resuspend the cell pellet with 1mL pre-warmed complete medium and seed in 10cm dish.
5. Add 8-10mL of complete medium.
6. Incubate the culture at 37°C incubator with 5% CO<sub>2</sub>.
7. A subcultivation ratio of 1:2-1:4 is recommended.

## Sequencing data

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WT   CGGCCGAAGTGAGC\*\*\*\*\*TAAGGCAGTGCGTG  
Mut   CGGCCGAAGTGAGC\*\*\*Deletion\*\*\*TAAGGCAGTGCGTG  
Allele-1: 79bp deletion in exon2

WT   GACTTGCTCCTGTC\*\*\*\*\*CTAAGGCAGTGCGT  
Mut   GACTTGCTCCTGTC\*\*\*Deletion\*\*\*CTAAGGCAGTGCGT  
Allele-2: 91bp deletion in exon2

Genome sequence analysis of PCR products from parental (WT) and GFRA1 knockout (KO) 293T cells, using sanger sequencing.