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NRG3 Knockout 293T Cell Line, Homozygous

Catalog No.: RM02705

Basic Information

Catalog No.
RM02705

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
NRG3

Species
Human

Gene ID
10718

Swiss Prot
P56975

Synonyms
HRG3; pro-NRG3; Neuregulin-3 (NRG3)

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Background

This gene is a member of the neuregulin gene family. This gene family encodes ligands for the transmembrane tyrosine kinase receptors ERBB3 and ERBB4 - members of the epidermal growth factor receptor family. Ligand binding activates intracellular signaling cascades and the induction of cellular responses including proliferation, migration, differentiation, and survival or apoptosis. This gene encodes neuregulin 3 (NRG3). NRG3 has been shown to activate the tyrosine phosphorylation of its cognate receptor, ERBB4, and is thought to influence neuroblast proliferation, migration and differentiation by signalling through ERBB4. NRG3 also promotes mammary differentiation during embryogenesis. Linkage studies have implicated this gene as a susceptibility locus for schizophrenia and schizoaffective disorder. Alternative splicing results in multiple transcript variants encoding distinct isoforms. Additional transcript variants have been described but their biological validity has not been verified.

Product Information

Description
NRG3 Knockout cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:82bp deletion in exon3
Allele-2:83bp deletion in exon3
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
1~5x10^6 cells/vial.

Storage
Store at -20℃

Protocol
Upon arrival, it should be maintained in DMEM medium with 10%(v/v) fetal bovine serum and 100U penicillin-streptomycin, at 37℃ with 5% CO_2 condition.

1. Thaw the vial in 37℃ 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℃ incubator with 5% CO_2.
7. A subcultivation ratio of 1:2-1:4 is recommended.

Sequencing data

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WT    ATATTCCACAGAG**********TGACCGGATCCCAT
Mut   ATATTCCACAGAG***Deletion***TGACCGGATCCCAT
Allele-1:    82bp deletion in exon3

WT    CATATTCCACAGA**********TGACCGGATCCCAT
Mut   CATATTCCACAGA***Deletion***TGACCGGATCCCAT
Allele-2:    83bp deletion in exon3
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Genome sequence analysis of PCR products from parental (WT) and NRG3 knockout (KO) 293T cells, using sanger sequencing.