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NKX2-1 Knockout 293T Cell Line, Homozygous

Catalog No.: RM02424

Basic Information

Catalog No.
RM02424

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
NKX2-1

Species
Human

Gene ID
7080

Swiss Prot
P43699

Synonyms
BCH; BHC; NK-2; NKX2.1; NKX2A; NMTC1; T/EBP; TEBP; TITF1; TTF-1; TTF1

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Background

This gene encodes a protein initially identified as a thyroid-specific transcription factor. The encoded protein binds to the thyroglobulin promoter and regulates the expression of thyroid-specific genes but has also been shown to regulate the expression of genes involved in morphogenesis. Mutations and deletions in this gene are associated with benign hereditary chorea, choreoathetosis, congenital hypothyroidism, and neonatal respiratory distress, and may be associated with thyroid cancer. Multiple transcript variants encoding different isoforms have been found for this gene. This gene shares the symbol/alias 'TTF1' with another gene, transcription termination factor 1, which plays a role in ribosomal gene transcription. [provided by RefSeq, Feb 2014]

Product Information

Description
NKX2-1 Knockout 293T Cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:109bp deletion in exon2
Allele-2:109bp 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
1~5x10^6 cells/vial

Storage
Stored in liquid nitrogen for a long time less than -130℃. 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℃ 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     GCTGGCGGCGTACA**************CTCGCACTCCGCCG
Mut    GCTGGCGGCGTACA***Deletion***CTCGCACTCCGCCG
Allele-1：109bp deletion in exon2
WT     GCTGGCGGCGTACA**************CTCGCACTCCGCCG
Mut    GCTGGCGGCGTACA***Deletion***CTCGCACTCCGCCG
Allele-2：109bp deletion in exon2
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Genome sequence analysis of PCR products from parental (WT) and NKX2-1 knockout (KO) 293T cells, using sanger sequencing.