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Tau Knockout SH-SY5Y Cell Line, Homozygous

Catalog No.: RM50081

Basic Information

Catalog No.
RM50081

Category
Cell Line

Parental Cell line
SH-SY5Y

Genotype
Knockout

Gene Information

Gene Symbol
Tau

Species
Human

Gene ID
4137

Swiss Prot
P10636

Synonyms
TAU; MSTD; PPND; DDPAC; MAPTL; MTBT1; MTBT2; tau-40; FTDP-17; PPP1R103; Tau-PHF6; Tau

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Background

This gene encodes the microtubule-associated protein tau (MAPT) whose transcript undergoes complex, regulated alternative splicing, giving rise to several mRNA species. MAPT transcripts are differentially expressed in the nervous system, depending on stage of neuronal maturation and neuron type. MAPT gene mutations have been associated with several neurodegenerative disorders such as Alzheimer's disease, Pick's disease, frontotemporal dementia, cortico-basal degeneration and progressive supranuclear palsy.

Product Information

Description
Tau Knockout cell line is engineered from SH-SY5Y cell line with Gene-Editing Technology.
Allele-1:64bp deletion in exon1
Allele-2:64bp deletion in exon1
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

```
WT    CTGGGACGTACG********************CGCTGGCCTGAA
Mut   CTGGGACGTACG***Deletion(64bp)***CGCTGGCCTGAA
Allele-1:  64bp deletion in exon1

WT     CTGGGACGTACG********************CGCTGGCCTGAA
Mut    CTGGGACGTACG***Deletion(64bp)***CGCTGGCCTGAA
Allele-2:  64bp deletion in exon1
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Genome sequence analysis of PCR products from parental (WT) and Tau knockout (KO) SH_SY5Y cells, using sanger sequencing.