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CPS1 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM02741

Basic Information

Catalog No.
RM02741

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Background

The mitochondrial enzyme encoded by this gene catalyzes synthesis of carbamoyl phosphate from ammonia and bicarbonate. This reaction is the first committed step of the urea cycle, which is important in the removal of excess urea from cells. The encoded protein may also represent a core mitochondrial nucleoid protein. Three transcript variants encoding different isoforms have been found for this gene. The shortest isoform may not be localized to the mitochondrion. Mutations in this gene have been associated with carbamoyl phosphate synthetase deficiency, susceptibility to persistent pulmonary hypertension, and susceptibility to venoocclusive disease after bone marrow transplantation.

Gene Information

Gene Symbol
CPS1

Species
Human

Gene ID
1373

Swiss Prot
P31327

Synonyms
PHN; GATD6; CPSASE1; CPS1

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Product Information

Description
CPS1 Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:116bp deletion in exon14
Allele-2:116bp deletion in exon14
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    TGTTCTGATGAACC**********GGGTTAATTCTGGG
Mut   TGTTCTGATGAACC***Deletion***GGGTTAATTCTGGG
Allele-1:   116bp deletion in exon14

WT    TGTTCTGATGAACC**********GGGTTAATTCTGGG
Mut   TGTTCTGATGAACC***Deletion***GGGTTAATTCTGGG
Allele-2:   116bp deletion in exon14
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Genome sequence analysis of PCR products from parental (WT) and CPS1 knockout (KO) HeLa cells, using sanger sequencing.