

HK1 Knockout 293T Cell Line, Homozygous

Catalog No.: RM01822

Basic Information

Catalog No.

RM01822

Category

Cell Line

Parental Cell line

293T

Genotype

Knockout

Gene Information

Gene Symbol

HK1

Species

Human

Gene ID

3098

Swiss Prot

P19367

Synonyms

HK; HK1-ta; HK1-tb; HK1-tc; HKD; HKI; HMSNR; HXK1; hexokinase

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Background

Hexokinases phosphorylate glucose to produce glucose-6-phosphate, the first step in most glucose metabolism pathways. This gene encodes a ubiquitous form of hexokinase which localizes to the outer membrane of mitochondria. Mutations in this gene have been associated with hemolytic anemia due to hexokinase deficiency. Alternative splicing of this gene results in several transcript variants which encode different isoforms, some of which are tissue-specific.

Product Information

Description

HK1 Knockout cell line is engineered from 293T cell line with Gene-Editing Technology.

Allele-1:4bp deletion in exon2

Allele-2:4bp 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

1~5x10⁶ 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% CO₂ 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% CO₂.
7. A subcultivation ratio of 1:2-1:4 is recommended.

Sequencing data

WT TCATAGATATCATGACTCGCTTCAGGAAGGAGATGAAGAA
Mut TCATAGATATCATGACTCGC---GGAAGGAGATGAAGAA
Allele-1: 4bp deletion in exon2

WT TCATAGATATCATGACTCGCTTCAGGAAGGAGATGAAGAA
Mut TCATAGATATCATGACTCGC---GGAAGGAGATGAAGAA
Allele-2: 4bp deletion in exon2

Genome sequence analysis of PCR products from parental (WT) and HK1 knockout (KO) 293T cells, using sanger sequencing.