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SHMT2 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM02116

Basic Information

Catalog No.
RM02116

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
SHMT2

Species
Human

Gene ID
6472

Swiss Prot
P34897

Synonyms
GLYA; HEL-S-51e; SHMT

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Background

This gene encodes the mitochondrial form of a pyridoxal phosphate-dependent enzyme that catalyzes the reversible reaction of serine and tetrahydrofolate to glycine and 5,10-methylene tetrahydrofolate. The encoded product is primarily responsible for glycine synthesis. The activity of the encoded protein has been suggested to be the primary source of intracellular glycine. The gene which encodes the cytosolic form of this enzyme is located on chromosome 17. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Oct 2009]

Product Information

Description
SHMT2 Knockout HeLa Cell Line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:58bp deletion in exon2
Allele-2:59bp 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

WT AGGAGAGCCTGTCG**********GCCTGGAGCTCATT
Mut AGGAGAGCCTGTCG***Deletion***GCCTGGAGCTCATT
Allele-1：58bp deletion in exon2

WT AGGAGAGCCTGTCG**********CCTGGAGCTCATTG
Mut AGGAGAGCCTGTCG***Deletion***CCTGGAGCTCATTG
Allele-2：59bp deletion in exon2

Genome sequence analysis of PCR products from parental (WT) and SHMT2 knockout (KO) HeLa cells, using sanger sequencing.