

PMS2 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM02437

Basic Information

Catalog No.

RM02437

Category

Cell Line

Parental Cell line

HeLa

Genotype

Knockout

Gene Information

Gene Symbol

PMS2

Species

Human

Gene ID

5395

Swiss Prot

P54278

Synonyms

HNPCC4; MLH4; PMS2CL; PMSL2

Contact

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Background

The protein encoded by this gene is a key component of the mismatch repair system that functions to correct DNA mismatches and small insertions and deletions that can occur during DNA replication and homologous recombination. This protein forms heterodimers with the gene product of the mutL homolog 1 (MLH1) gene to form the MutL-alpha heterodimer. The MutL-alpha heterodimer possesses an endonucleolytic activity that is activated following recognition of mismatches and insertion/deletion loops by the MutS-alpha and MutS-beta heterodimers, and is necessary for removal of the mismatched DNA. There is a DQHA(X)2E(X)4E motif found at the C-terminus of the protein encoded by this gene that forms part of the active site of the nuclease. Mutations in this gene have been associated with hereditary nonpolyposis colorectal cancer (HNPCC; also known as Lynch syndrome) and Turcot syndrome. [provided by RefSeq, Apr 2016]

Product Information

Description

PMS2 Knockout HeLa Cell Line knockout is engineered from HeLa cell line with Gene-Editing Technology.

Allele-1:106bp deletion in exon6

Allele-2:107bp deletion in exon6

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 AAAATGGTCCAGGT*****ATAAGGAAAATAT
Mut AAAATGGTCCAGGT***Deletion***ATAAGGAAAATAT
Allele-1: 106bp deletion in exon6
WT AAAATGGTCCAGGT*****TAAAGGAAAATATC
Mut AAAATGGTCCAGGT***Deletion***TAAAGGAAAATATC
Allele-2: 107bp deletion in exon6

Genome sequence analysis of PCR products from parental (WT) and PMS2 knockout (KO) HeLa cells, using sanger sequencing.