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MAP2K2 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM50120

Basic Information

Catalog No.
RM50120

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
MAP2K2

Species
Human

Gene ID
5605

Swiss Prot
P36507

Synonyms
CFC4; MEK2; MKK2; MAPKK2; PRKMK2;

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Background

The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. This kinase is known to play a critical role in mitogen growth factor signal transduction. It phosphorylates and thus activates MAPK1/ERK2 and MAPK2/ERK3. The activation of this kinase itself is dependent on the Ser/Thr phosphorylation by MAP kinase kinase kinases. Mutations in this gene cause cardiofaciocutaneous syndrome (CFC syndrome), a disease characterized by heart defects, cognitive disability, and distinctive facial features similar to those found in Noonan syndrome. The inhibition or degradation of this kinase is also found to be involved in the pathogenesis of Yersinia and anthrax. A pseudogene, which is located on chromosome 7, has been identified for this gene.

Product Information

Description
MAP2K2 Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:83bp deletion in exon2
Allele-2:5bp 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 ACGAGCAGCAGAAG**********CGCGGGCAACGGCG
Mut ACGAGCAGCAGAAG***Deletion***CGCGGGCAACGGCG
Allele-1: 83bp deletion in exon2

WT GAAG**********CGGC*GCTG**********CGCG
Mut GAAG***Deletion***CGGC*GCTG***Deletion***CGCG
Allele-2: 5bp deletion in exon2

Genome sequence analysis of PCR products from parental (WT) and MAP2K2 knockout (KO) HeLa cells, using sanger sequencing.