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MAPK1 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM01825

Basic Information

Catalog No.
RM01825

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
MAPK1

Species
Human

Gene ID
5594

Swiss Prot
P28482

Synonyms
ERK; ERK-2; ERK2; ERT1; MAPK2; P42MAPK; PRKM1; PRKM2; p38; p40; p41; p41mapk; p42-MAPK

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Background

This gene encodes a member of the MAP kinase family. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. The activation of this kinase requires its phosphorylation by upstream kinases. Upon activation, this kinase translocates to the nucleus of the stimulated cells, where it phosphorylates nuclear targets. One study also suggests that this protein acts as a transcriptional repressor independent of its kinase activity. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. Two alternatively spliced transcript variants encoding the same protein, but differing in the UTRs, have been reported for this gene.

Product Information

Description
MAPK1 Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:115bp deletion in exon3
Allele-2:121bp deletion in exon3
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.

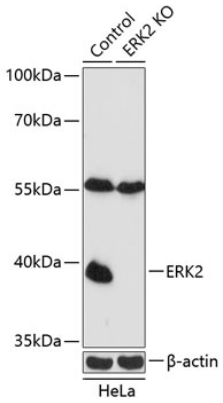
Sequencing data

WT AAACAGATATATAG**********AGCTAACGTTCTGC
Mut AAACAGATATATAG***Deletion***AGCTAACGTTCTGC
Allele-1: 115bp deletion in exon3

WT CAAACAGATATATA**********ACGTTCTGCACCGT
Mut CAAACAGATATATA***Deletion***ACGTTCTGCACCGT
Allele-2: 121bp deletion in exon3

Genome sequence analysis of PCR products from parental (WT) and MAPK1 knockout (KO) HeLa cells, using sanger sequencing.

WB data



Western blot analysis of extracts from parental (Control) and MAPK1 knockout (KO) HeLa cells, using MAPK1 antibody at 1:1000 dilution.