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SMAD1 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM01926

Basic Information

Catalog No.
RM01926

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Background

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signals of the bone morphogenetic proteins (BMPs), which are involved in a range of biological activities including cell growth, apoptosis, morphogenesis, development and immune responses. In response to BMP ligands, this protein can be phosphorylated and activated by the BMP receptor kinase. The phosphorylated form of this protein forms a complex with SMAD4, which is important for its function in the transcription regulation. This protein is a target for SMAD-specific E3 ubiquitin ligases, such as SMURF1 and SMURF2, and undergoes ubiquitination and proteasome-mediated degradation. Alternatively spliced transcript variants encoding the same protein have been observed. [provided by RefSeq, Jul 2008]

Gene Information

Gene Symbol
SMAD1

Species
Human

Gene ID
4086

Swiss Prot
Q15797

Synonyms
BSP-1; BSP1; JV4-1; JV41; MADH1; MADR1

Product Information

Description
SMAD1 Knockout HeLa Cell Line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:61bp deletion in exon1
Allele-2:61bp deletion in exon1
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.

Contact

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Sequencing data

WT TTGAGCTGCCCAGG**********CGGAAGGGACTGCC
Mut TTGAGCTGCCCAGG***Deletion***CGGAAGGGACTGCC
Allele-1: 61bp deletion in exon1

WT TTGAGCTGCCCAGG**********CGGAAGGGACTGCC
Mut TTGAGCTGCCCAGG***Deletion***CGGAAGGGACTGCC
Allele-2: 61bp deletion in exon1

Genome sequence analysis of PCR products from parental (WT) and SMAD1 knockout (KO) HeLa cells, using sanger sequencing.