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MMP2 Knockout HCT116 Cell Line, Homozygous

Catalog No.: RM01810

Basic Information

Catalog No.
RM01810

Category
Cell Line

Parental Cell line
HCT116

Genotype
Knockout

Gene Information

Gene Symbol
MMP2

Species
Human

Gene ID
4313

Swiss Prot
P08253

Synonyms
CLG4; CLG4A; MMP-2; MMP-II; MONA; TBE-1

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Background

This gene is a member of the matrix metalloproteinase (MMP) gene family, that are zinc-dependent enzymes capable of cleaving components of the extracellular matrix and molecules involved in signal transduction. The protein encoded by this gene is a gelatinase A, type IV collagenase, that contains three fibronectin type II repeats in its catalytic site that allow binding of denatured type IV and V collagen and elastin. Unlike most MMP family members, activation of this protein can occur on the cell membrane. This enzyme can be activated extracellularly by proteases, or, intracellulary by its S-glutathiolation with no requirement for proteolytical removal of the pro-domain. This protein is thought to be involved in multiple pathways including roles in the nervous system, endometrial menstrual breakdown, regulation of vascularization, and metastasis. Mutations in this gene have been associated with Winchester syndrome and Nodulosis-Arthropathy-Osteolysis (NAO) syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms.

Product Information

Description
MMP2 Knockout HCT116 cell line is engineered from HCT116 cell line with Gene-Editing Technology.
Allele-1:40bp deletion in exon1
Allele-2:40bp 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
Store at -20℃

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

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WT    GCGGAAGCCACGCT**************CAAGCCCAAGTGGG
Mut   GCGGAAGCCACGCT***Deletion***CAAGCCCAAGTGGG
Allele-1：40bp deletion in exon1

WT    GCGGAAGCCACGCT**************CAAGCCCAAGTGGG
Mut   GCGGAAGCCACGCT***Deletion***CAAGCCCAAGTGGG
Allele-2：40bp deletion in exon1
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Genome sequence analysis of PCR products from parental (WT) and MMP2 knockout (KO) HCT116 cells, using sanger sequencing.