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# MMP2 Knockout 293T Cell Line, Homozygous

**Catalog No.: RM50084**

## Basic Information

**Catalog No.**
RM50084

**Category**
Cell Line

**Parental Cell line**
293T

**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

## Contact


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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 cell line is engineered from 293T 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

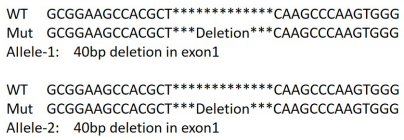
**Shipping Conditions**
Dry ice

**Amount**
1~5x$10^6$ 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




Genome sequence analysis of PCR products from parental (WT) and MMP2 knockout (KO) 293T cells, using sanger sequencing.