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MGAT1 with GNT1 Knockout 293F Cell Line, Homozygous

Catalog No.: RM50162

Basic Information

Catalog No.
RM50162

Category
Cell Line

Parental Cell line
293F

Genotype
Knockout

Gene Information

Gene Symbol
MGAT1,GNT1

Species
Human

Gene ID
4245

Swiss Prot
P26572

Synonyms
GnTI; MGAT; GLCT1; GLYT1; GNT-1; GNT-I; GLCNAC-TI; MGAT1

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Background

There are believed to be over 100 different glycosyltransferases involved in the synthesis of protein-bound and lipid-bound oligosaccharides. UDP-N-acetylglucosamine:alpha-3-D-mannoside beta-1,2-N-acetylglucosaminyltransferase I is a medial-Golgi enzyme essential for the synthesis of hybrid and complex N-glycans. The protein, encoded by a single exon, shows typical features of a type II transmembrane protein. The protein is believed to be essential for normal embryogenesis. Several variants encoding the same protein have been found for this gene.

Product Information

Description
MGAT1,GNT1 Knockout cell line is engineered from 293F cell line with Gene-Editing Technology.
Allele-1:exon3 was deleted，Allele-2:85bp deletion in exon3(GNT1)
Allele-1:53bp deletion in exon1，Allele-2:52bp deletion in exon1(MGAT1)
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

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WT   TTTGCCCCTCCCAG**********GTCAAACCAGGGTC
Mut  TTTGCCCCTCCCAG***Deletion***GTCAAACCAGGGTC
Allele-1:   exon3 was deleted(GNT1)
WT   GCCCCTCCCAGGTC**********AAACCAGGGTCAAA
Mut  GCCCCTCCCAGGTC***Deletion***AAACCAGGGTCAAA
Allele-2:   85bp deletion in exon3(GNT1)

WT   CAGTCAGCGCTCTC**********CGAGGTGGAGCTGG
Mut  CAGTCAGCGCTCTC***Deletion***CGAGGTGGAGCTGG
Allele-1:   53bp deletion in exon1(MGAT1)
WT   TCAGTCAGCGCTCT**********GCCGAGGTGGAGCT
Mut  TCAGTCAGCGCTCT***Deletion***GCCGAGGTGGAGCT
Allele-2:   52bp deletion in exon1(MGAT1)
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Genome sequence analysis of PCR products from parental (WT) and MGAT1 with GNT1 knockout (KO) 293F cells, using sanger sequencing.