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ACACA Knockout HeLa Cell Line, Homozygous

Catalog No.: RM01916

Basic Information

Catalog No.
RM01916

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
ACACA

Species
Human

Gene ID
31

Swiss Prot
Q13085

Synonyms
ACAC; ACACAD; ACC; ACC1; ACCA

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Background

Acetyl-CoA carboxylase (ACC) is a complex multifunctional enzyme system. ACC is a biotin-containing enzyme which catalyzes the carboxylation of acetyl-CoA to malonyl-CoA, the rate-limiting step in fatty acid synthesis. There are two ACC forms, alpha and beta, encoded by two different genes. ACC-alpha is highly enriched in lipogenic tissues. The enzyme is under long term control at the transcriptional and translational levels and under short term regulation by the phosphorylation/dephosphorylation of targeted serine residues and by allosteric transformation by citrate or palmitoyl-CoA. Multiple alternatively spliced transcript variants divergent in the 5' sequence and encoding distinct isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Product Information

Description
ACACA Knockout HeLa Cell Line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:23bp deletion in exon2
Allele-2:49bp deletion in exon2
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 TGCGGTCTATCCGT**********AAATGAACGTGCAA
Mut TGCGGTCTATCCGT***Deletion***AAATGAACGTGCAA
Allele-1: 23bp deletion in exon2

WT TGCGGTCTATCCGT**********TCATGGTCACACCT
Mut TGCGGTCTATCCGT***Deletion***TCATGGTCACACCT
Allele-2: 49bp deletion in exon2

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