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PRKAA2 Knockout HCT116 Cell Line, Homozygous

Catalog No.: RM01908

Basic Information

Catalog No.
RM01908

Category
Cell Line

Parental Cell line
HCT116

Genotype
Knockout

Background

The protein encoded by this gene is a catalytic subunit of the AMP-activated protein kinase (AMPK). AMPK is a heterotrimer consisting of an alpha catalytic subunit, and non-catalytic beta and gamma subunits. AMPK is an important energy-sensing enzyme that monitors cellular energy status. In response to cellular metabolic stresses, AMPK is activated, and thus phosphorylates and inactivates acetyl-CoA carboxylase (ACC) and beta-hydroxy beta-methylglutaryl-CoA reductase (HMGCR), key enzymes involved in regulating de novo biosynthesis of fatty acid and cholesterol. Studies of the mouse counterpart suggest that this catalytic subunit may control whole-body insulin sensitivity and is necessary for maintaining myocardial energy homeostasis during ischemia. [provided by RefSeq, Jul 2008]

Gene Information

Gene Symbol
PRKAA2

Species
Human

Gene ID
5563

Swiss Prot
P54646

Synonyms
AMPK; AMPK2; AMPKa2; PRKAA

Product Information

Description
PRKAA2 Knockout HCT116 Cell Line is engineered from HCT116 cell line with Gene-Editing Technology.
Allele-1:76bp deletion in exon4
Allele-2:88bp deletion in exon4
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 AACAGGACATTCTC**********GAATGTCCTGTTGG
Mut AACAGGACATTCTC***Deletion***GAATGTCCTGTTGG
Allele-1: 76bp deletion in exon4

WT TGGAAGCCAGGCGG**********ATGCACACATGAAT
Mut TGGAAGCCAGGCGG***Deletion***ATGCACACATGAAT
Allele-2: 88bp deletion in exon4

Genome sequence analysis of PCR products from parental (WT) and PRKAA2 knockout (KO) HCT116 cells, using sanger sequencing.