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AKT1 Knockout HeLa Cell Line, Homozygous

Catalog No.: RM01847

Basic Information

Catalog No.
RM01847

Category
Cell Line

Parental Cell line
HeLa

Genotype
Knockout

Gene Information

Gene Symbol
AKT1

Species
Human

Gene ID
207

Swiss Prot
P31749

Synonyms
AKT; CWS6; PKB; PKB-ALPHA; PRKBA; RAC; RAC-ALPHA

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Background

The serine-threonine protein kinase encoded by the AKT1 gene is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mutations in this gene have been associated with the Proteus syndrome. Multiple alternatively spliced transcript variants have been found for this gene.

Product Information

Description
AKT1 Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:52bp deletion in exon4
Allele-2:52bp 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

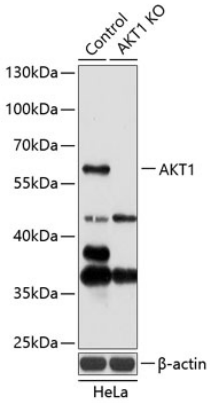
Amount
1~5x10^6 cells/vial.

Storage
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.

WB data



Western blot analysis of extracts from parental (Control) and AKT1 knockout (KO) HeLa cells, using AKT1 antibody at 1:1000 dilution.

Sequencing data

WT AACCGCCATCCAGA**********GGGCTCACCCAGTG
Mut AACCGCCATCCAGA***Deletion***GGGCTCACCCAGTG
Allele-1: 52bp deletion in exon4

WT AACCGCCATCCAGA**********GGGCTCACCCAGTG
Mut AACCGCCATCCAGA***Deletion***GGGCTCACCCAGTG
Allele-2: 52bp deletion in exon4

Genome sequence analysis of PCR products from parental (WT) and AKT1 knockout (KO) HeLa cells, using sanger sequencing.