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DFFA Knockout 293T Cell Line, Homozygous

Catalog No.: RM02243

Basic Information

Catalog No.
RM02243

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
DFFA

Species
Human

Gene ID
1676

Swiss Prot
O00273

Synonyms
DFF-45; DFF1; ICAD

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Background

Apoptosis is a cell death process that removes toxic and/or useless cells during mammalian development. The apoptotic process is accompanied by shrinkage and fragmentation of the cells and nuclei and degradation of the chromosomal DNA into nucleosomal units. DNA fragmentation factor (DFF) is a heterodimeric protein of 40-kD (DFFB) and 45-kD (DFFA) subunits. DFFA is the substrate for caspase-3 and triggers DNA fragmentation during apoptosis. DFF becomes activated when DFFA is cleaved by caspase-3. The cleaved fragments of DFFA dissociate from DFFB, the active component of DFF. DFFB has been found to trigger both DNA fragmentation and chromatin condensation during apoptosis. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Product Information

Description
DFFA Knockout cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:83bp deletion in exon2
Allele-2:83bp 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 CTGGCCATTGATAA**********ATACTAAGTTTGTG
Mut CTGGCCATTGATAA***Deletion***ATACTAAGTTTGTG
Allele-1: 83bp deletion in exon2

WT CTGGCCATTGATAA**********ATACTAAGTTTGTG
Mut CTGGCCATTGATAA***Deletion***ATACTAAGTTTGTG
Allele-2: 83bp deletion in exon2

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