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TNF Knockout HeLa cell line, Homozygous

Catalog No.: RM50167

Basic Information

Catalog No.
RM50167

Category
Cell Lysate

Parental Cell line
HeLa

Genotype
Knockout

Background

This gene encodes a multifunctional proinflammatory cytokine that belongs to the tumor necrosis factor (TNF) superfamily. This cytokine is mainly secreted by macrophages. It can bind to, and thus functions through its receptors TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. This cytokine is involved in the regulation of a wide spectrum of biological processes including cell proliferation, differentiation, apoptosis, lipid metabolism, and coagulation. This cytokine has been implicated in a variety of diseases, including autoimmune diseases, insulin resistance, psoriasis, rheumatoid arthritis ankylosing spondylitis, tuberculosis, autosomal dominant polycystic kidney disease, and cancer. Mutations in this gene affect susceptibility to cerebral malaria, septic shock, and Alzheimer disease. Knockout studies in mice also suggested the neuroprotective function of this cytokine.

Gene Information

Gene Symbol
TNF

Species
Human

Gene ID
7124

Swiss Prot
P01375

Synonyms
DIF; TNFA; TNFSF2; TNLG1F; TNF-alpha; TNF-□

Product Information

Description
TNF Knockout cell line is engineered from HeLa cell line with Gene-Editing Technology.
Allele-1:89bp deletion in exon1
Allele-2:25bp deletion in exon1
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.

Contact

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Sequencing data

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WT      AGCTGGCCGAGGAG**********CACGCTCTTCTGCC
Mut     AGCTGGCCGAGGAG***Deletion***CACGCTCTTCTGCC
Allele-1:   89bp deletion in exon1

WT      GGAG**********ACAG****TCTC**********GTGG
Mut     GGAG**Deletion**ACAG****TCTC**Deletion**GTGG
Allele-2:   25bp deletion in exon1
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Genome sequence analysis of PCR products from parental (WT) and TNF knockout (KO) HeLa cells, using sanger sequencing.