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IL-17A Knockout 293T Cell Line, Homozygous

Catalog No.: RM02670

Basic Information

Catalog No.
RM02670

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
IL-17A

Species
Human

Gene ID
3605

Swiss Prot
Q16552

Synonyms
IL17; CTLA8; IL-17; ILA17; CTLA-8; IL-17A; IL17A

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Background

This gene is a member of the IL-17 receptor family which includes five members (IL-17RA-E) and the encoded protein is a proinflammatory cytokine produced by activated T cells. IL-17A-mediated downstream pathways induce the production of inflammatory molecules, chemokines, antimicrobial peptides, and remodeling proteins. The encoded protein elicits crucial impacts on host defense, cell trafficking, immune modulation, and tissue repair, with a key role in the induction of innate immune defenses. This cytokine stimulates non-hematopoietic cells and promotes chemokine production thereby attracting myeloid cells to inflammatory sites. This cytokine also regulates the activities of NF-kappaB and mitogen-activated protein kinases and can stimulate the expression of IL6 and cyclooxygenase-2 (PTGS2/COX-2), as well as enhance the production of nitric oxide (NO). IL-17A plays a pivotal role in various infectious diseases, inflammatory and autoimmune disorders, and cancer. High levels of this cytokine are associated with several chronic inflammatory diseases including rheumatoid arthritis, psoriasis and multiple sclerosis. The lung damage induced by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is to a large extent, a result of the inflammatory response promoted by cytokines such as IL17A.

Product Information

Description
IL-17A Knockout cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:exon1 was deleted
Allele-2:exon1 was deleted
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

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WT    CCTGAACCCACTGC**********TGGGTTCTGACTAT
Mut   CCTGAACCCACTGC***Deletion***TGGGTTCTGACTAT
Allele-1:    exon1 was deleted

WT    CCTGAACCCACTGC**********TGGGTTCTGACTAT
Mut   CCTGAACCCACTGC***Deletion***TGGGTTCTGACTAT
Allele-2:    exon1 was deleted
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Genome sequence analysis of PCR products from parental (WT) and IL_17A knockout (KO) 293T cells, using sanger sequencing.