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ABCB1 Knockout 293T Cell Line, Homozygous

Catalog No.: RM02444

Basic Information

Catalog No.
RM02444

Category
Cell Line

Parental Cell line
293T

Genotype
Knockout

Gene Information

Gene Symbol
ABCB1

Species
Human

Gene ID
5243

Swiss Prot
P08183

Synonyms
ABC20; CD243; CLCS; GP170; MDR1; P-GP; PGY1

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Background

The membrane-associated protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intra-cellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the MDR/TAP subfamily. Members of the MDR/TAP subfamily are involved in multidrug resistance. The protein encoded by this gene is an ATP-dependent drug efflux pump for xenobiotic compounds with broad substrate specificity. It is responsible for decreased drug accumulation in multidrug-resistant cells and often mediates the development of resistance to anticancer drugs. This protein also functions as a transporter in the blood-brain barrier. Mutations in this gene are associated with colchicine resistance and Inflammatory bowel disease 13. Alternative splicing and the use of alternative promoters results in multiple transcript variants. [provided by RefSeq, Feb 2017]

Product Information

Description
ABCB1 Knockout 293T Cell line is engineered from 293T cell line with Gene-Editing Technology.
Allele-1:53bp deletion in exon3
Allele-2:53bp deletion in exon3
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.

Sequencing data

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WT     TTGACAAGTTGTAT**************GATGCTGGTGTTTG
Mut    TTGACAAGTTGTAT***Deletion***GATGCTGGTGTTTG
Allele-1：53bp deletion  in exon3
WT     TTGACAAGTTGTAT**************GATGCTGGTGTTTG
Mut    TTGACAAGTTGTAT***Deletion***GATGCTGGTGTTTG
Allele-2：53bp deletion  in exon3
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Genome sequence analysis of PCR products from parental (WT) and ABCB1 knockout (KO) 293T cells, using sanger sequencing.