# 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

## Contact

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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<sup>6</sup> cells/vial

### Storage

Stored in liquid nitrogen for a long time less than -130°C. 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  $37^{\circ}$ C with 5% CO<sub>2</sub> condition.

- 1. Thaw the vial in 37°C 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.
- 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°C incubator with 5%  $CO_2$ .
- 7. A subcultivation ratio of 1:2-1:4 is recommended.

## Sequencing data

- WT TTGACAAGTTGTAT\*\*\*\*\*\*GATGCTGGTGTTTG Mut TTGACAAGTTGTAT\*\*\*Deletion\*\*\*GATGCTGGTGTTTG Allele-1: 53bp deletion in exon3
- WT TTGACAAGTTGTAT\*\*\*\*Deletion\*\*\*GATGCTGGTGTTTG Mut TTGACAAGTTGTAT\*\*\*Deletion\*\*\*GATGCTGGTGTTTG
- Allele-2: 53bp deletion in exon3

Genome sequence analysis of PCR products from parental (WT) and ABCB1 knockout (KO) 293T cells, using sanger sequencing.