

Cell name: MDCKII x ABCG2  
Cat. No. M-0240

### Product description

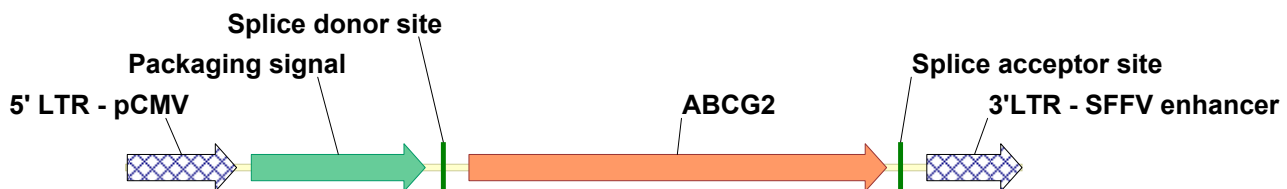
MDCKII x ABCG2 was established by retroviral transduction of human ATP-binding cassette, sub-family G, member 2 cDNA into MDCKII cells and flow cytometry sorting of the anti-Human ABCG2 (clone 5D3) immunolabeled population.

### Transgene construct information

#### Expression cassette type

Single-promoter, monocistronic

#### Expression cassette map



#### Expression cassette features

Element	Type	Species	RefSeq	Mutation / Discrepancy
SFFV	promoter, viral, constitutive	-	-	-
ABCG2	CDS	Homo sapiens	<a href="https://www.ncbi.nlm.nih.gov/RefSeq/record/NM_004827.2">NM_004827.2</a>	none / none

### Transgene protein information

The transmembrane protein encoded by this gene is included in 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 White subfamily. Alternatively referred to as a breast cancer resistance protein, this protein functions as a xenobiotic transporter which may play a major role in multi-drug resistance. It likely serves as a cellular defense mechanism in response to mitoxantrone and anthracycline exposure. Significant expression of this protein has been observed in the placenta, which may suggest a potential role for this molecule in placenta tissue. Multiple transcript variants encoding different isoforms have been found for this gene. [Source: NCBI Gene, <http://www.ncbi.nlm.nih.gov/gene/9429>]

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## Cell culture characteristics

### Source

Dog (*Canis familiaris*) kidney

### Morphology

Epithelial

### Growth properties

Adherent

### Culture conditions

Culture cells at 37°C in humidified atmosphere with 5% CO<sub>2</sub>. The base medium for this cell line is D-MEM with 4.5 g/l glucose. To make the complete growth medium, add fetal bovine serum to a final concentration of 10%.

### Subculturing

Remove culture medium and detach cells by treating with 0.04 mL/cm<sup>2</sup> of 0.25% trypsin / 1 mM EDTA solution for 10 minutes at 37°C. Add 5x volume of complete medium to neutralize trypsin-EDTA, pellet cells at 250 x g, discard supernatant, and resuspend in culture medium. Subcultivate in a ratio of 1:4-1:6 two times a week. Recommended plating density: 3x10<sup>4</sup> cells/cm<sup>2</sup>.

### Preservation

Freeze Medium: Complete growth medium with 10% DMSO.

Storage Temperature: Liquid nitrogen vapour phase.

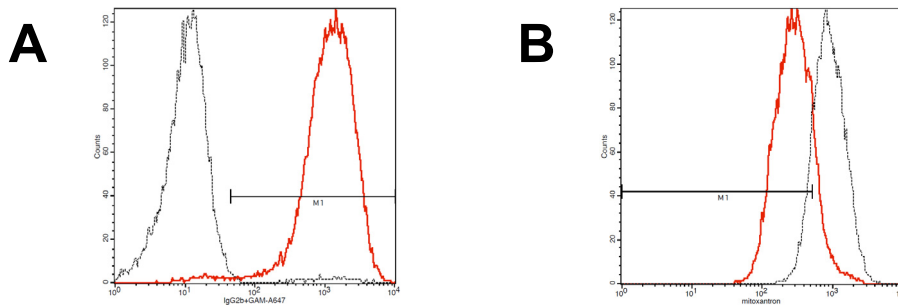
### Population doubling time

~24 hours

### Sterility testing

Mycoplasma: negative

## Validation results



**A:** Red line: MDCKII x ABCG2 cells incubated with Human ABCG2 antibody.

Dotted line: MDCKII x ABCG2 cells incubated with isotype control.

Indirect immunofluorescent labeling with anti-Human ABCG2 (5D3) antibody (R&D Systems®) or isotype control + AlexaFluor™ 647 labeled anti-Mouse IgG secondary antibody. Detection by flow cytometry.

**B:** Red line: MDCKII x ABCG2 cells incubated with mitoxantrone.

Dotted line: MDCKII x ABCG2 cells incubated with mitoxantrone and Ko143.

Mitoxantrone uptake was detected by flow cytometry at 633 nm in the presence or absence of Ko143, a specific inhibitor of ABCG2.

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