Cell name: HEK293 x GFP-ABCG2
Cat. No. H-0300

Product description

HEK293 x GFP-ABCG2 was established by lentiviral transduction of N-terminally GFP-tagged ABCG2 human ATP-binding cassette, sub-family G, member 2, cDNA into HEK293 cells and flow cytometry sorting of the GFP-positive population.

Transgene construct information

Expression cassette type

Single-promoter, monocistronic, fusion

Expression cassette map

Expression cassette features

Element	Type	Species	RefSeq	Mutation / Discrepancy
EF1α	promoter, eukaryotic, constitutive	-	-	-
GFP	CDS	-	-	none / none
linker	linker	-	-	-
ABCG2	CDS	Homo sapiens	NM_004827.2	none / none

Transgene protein information

The transmembrane protein encoded by *ABCG2* gene is included in the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intra-cellular membranes. Alternatively referred to as a breast cancer resistance protein, ABCG2 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. [Source: NCBI Gene, http://www.ncbi.nlm.nih.gov/gene/9429]

The N-terminal GFP fusion of ABCG2 was generated, and shown to be fully functional, by Creative Cell. GFP is a naturally occurring fluorescent protein originally isolated from the jellyfish *Aequorea victoria.* Since its discovery, numerous variants with altered excitation and emission properties have been engineered. The GFP variant used herewith is most efficiently excited around 490 nm and emits at 509 nm.

Cell culture characteristics

Morphology
Epithelial

Growth properties
Adherent

Culture conditions
Culture cells at 37°C in humidified atmosphere with 5% CO_2. 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%.

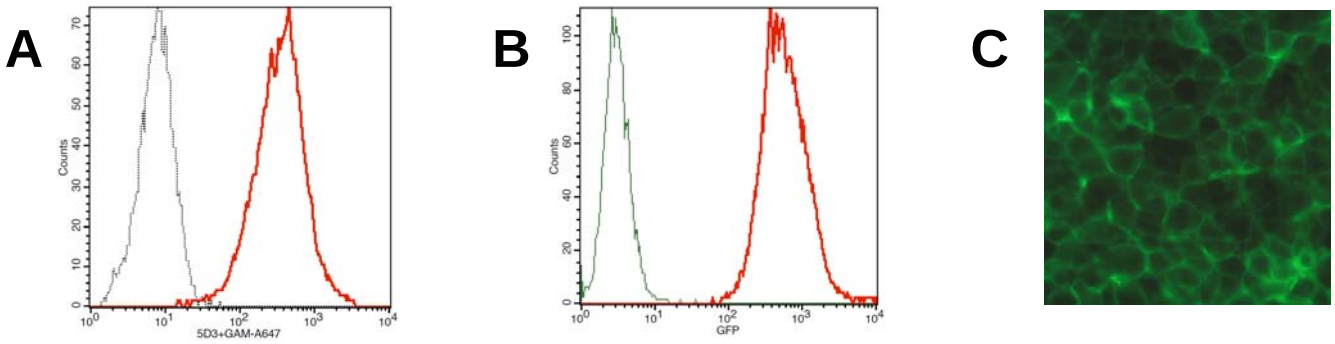
Subculturing
Remove culture medium and detach cells by treating with 0.04 mL/cm^2 of 0.25% trypsin / 1 mM EDTA solution for 15 minutes at 37°C. Add 5x volume of complete medium to neutralize trypsin-EDTA, pellet cells at 250 x *g*, discard supernatant, and resuspend in culture medium. Subcultivate in a ratio of 1:10. Recommended plating density: 4x10^4 cell/cm^2.

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: A-431 x GFP-ABCG2 cells incubated with anti-Human ABCG2 antibody.
Dotted line: A-431 x GFP-ABCG2 cells incubated with isotype control.
Indirect immunofluorescent labeling with anti-Human ABCG2 (clone 5D3) antibody (R&D Systems®) or isotype control + AlexaFluor™ 488 labeled anti-Mouse IgG secondary antibody. Detection by flow cytometry.

B: Dotted line: HEK293 cells
Red line: HEK293 x GFP-ABCG2 cells
Detection of GFP at 509 nm by flow cytometry.

C: Detection of GFP-ABCG2 in HEK293 x GFP-ABCG2 cells by confocal fluorescence microscopy.