Revision 1

Store at -20C

#12273

MDR1/ABCB1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	130-180	Rabbit	#P08183	5243

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

MDR1/ABCB1 Antibody recognizes endogenous levels of total MDR1 protein. This antibody also cross-reacts with a 47 kDa protein of unknown origin in some cell lines.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu643 of human MDR1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

MDR1/ABCB1 belongs to the Mdr/Tap subfamily of the ATP-binding cassette transporter superfamily (1). Multidrug resistance 1 (MDR1) serves as an efflux pump for xenobiotic compounds with broad substrate specificity. MDR1 substrates include therapeutic agents such as actinomycin D, etoposide, imatinib, and doxorubicin, as well as endogenous molecules including β-amyloids, steroid hormones, lipids, phospholipids, cholesterol, and cytokines (2). Research studies have shown that MDR1 reduces drug accumulation in cancer cells, allowing the development of drug resistance (3-5). On the other hand, MDR1 expressed in the plasma membrane of cells in the blood-brain, blood-cerebral spinal fluid, or blood-placenta barriers restricts the permeability of drugs into these organs from the apical or serosal side (6,7). MDR1 is also expressed in normal tissues with excretory function such as small intestine, liver, and kidney (7). Intracellular MDR1 has been detected in the ER, vesicles, and nuclear envelope, and has been associated with cell trafficking machinery (8). Other reported functions of MDR1 include viral resistance, cytokine trafficking (9,10), and lipid homeostasis in the peripheral and central nervous system (11-13).

Background References

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13. Jeannesson, E. et al. (2009) *Clin Chim Acta* 403, 198-202.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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