Store at -20°C

#13978

MDR1/ABCB1 (E1Y7S) Rabbit mAb

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Entrez-Gene ID #5243
UniProt ID #P08183

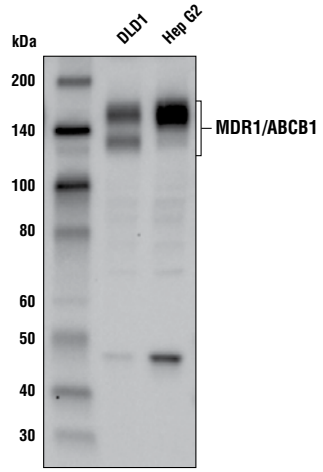
For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P Endogenous	H, M, R	130-180 kDa	Rabbit IgG**

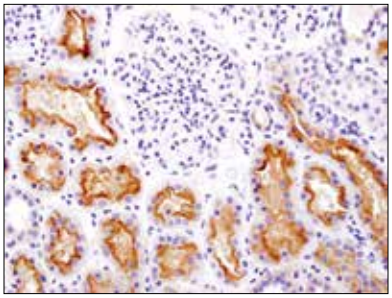
Background: MDR1/ABCB1 belongs to the Mdr/Tap subfamily of the ATP-binding cassette transporter superfamily (1). Multidrug resistance 1 (MDR1) serves as an efflux pump for xenobiotic compounds with broad substrate specificity. MDR1 substrates include therapeutic agents such as actinomycin D, etoposide, 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).

Specificity/Sensitivity: MDR1/ABCB1 (E1Y7S) Rabbit mAb recognizes endogenous levels of total MDR1 protein.

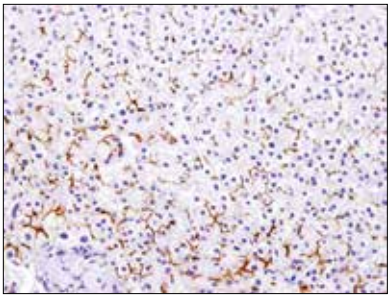
Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant protein surrounding Ala650 of human MDR1 protein.



Western blot analysis of extracts from DLD1 and Hep G2 cells using MDR1/ABCB1 (E1Y7S) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded normal human kidney using MDR1/ABCB1 (E1Y7S) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded normal human liver using MDR1/ABCB1 (E1Y7S) Rabbit mAb.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:800†
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114

†*Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.*

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

(1) Furuya, K.N. et al. (1997) *Cancer Res* 57, 3708-16.

(2) Litman, T. et al. (1997) *Biochim Biophys Acta* 1361, 169-76.

(3) Chen, C.J. et al. (1986) *Cell* 47, 381-9.

(4) Kartner, N. et al. (1983) *Cancer Res* 43, 4413-9.

(5) Chen, G. et al. (1997) *J Biol Chem* 272, 5974-82.

(6) Brinkmann, U. and Eichelbaum, M. (2001) *Pharmacogenomics J* 1, 59-64.

(7) Fromm, M.F. (2004) *Trends Pharmacol Sci* 25, 423-9.

(8) Miller, D.S. et al. (2008) *Pharmacol Rev* 60, 196-209.

(9) Ambudkar, S.V. et al. (1999) *Annu Rev Pharmacol Toxicol* 39, 361-98.

(10) Raviv, Y. et al. (2000) *FASEB J* 14, 511-5.

(11) Meijer, O.C. et al. (2003) *J Endocrinol* 178, 13-8.

(12) Karssen, A.M. et al. (2002) *J Endocrinol* 175, 251-60.

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

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

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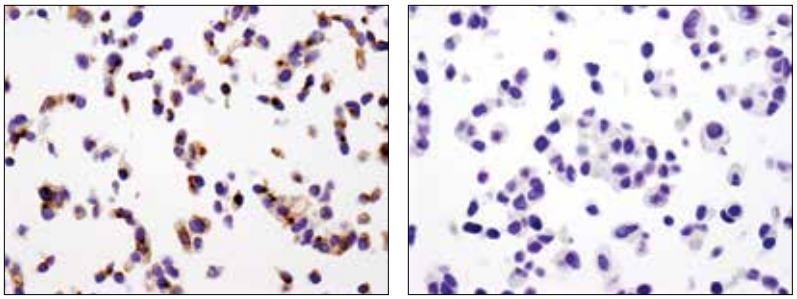

Immunohistochemical analysis of paraffin-embedded Hep G2 (left) and MCF7 (right) cell pellets using MDR1/ABCB1 (E1Y7S) Rabbit mAb.