Revision 1

Store at -20C

#12683

MDR1/ABCB1 (D3H1Q) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	130-180	Rabbit IgG	#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, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

MDR1/ABCB1 (D3H1Q) Rabbit mAb recognizes endogenous levels of total MDR1 protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human MDR1 protein.

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

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.

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

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.