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MRP4/ABCC4 (D1Z3W) Rabbit mAb

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Entrez-Gene ID #10257
UniProt ID #015439

rev. 06/30/16

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

Applications
W, IP, IHC-P
Endogenous

Species Cross-Reactivity*
H, M, R

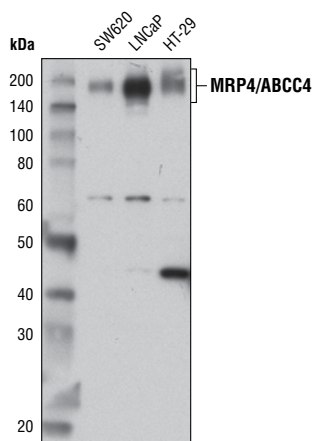
Molecular Wt.
140-200 kDa

Isotype
Rabbit IgG**

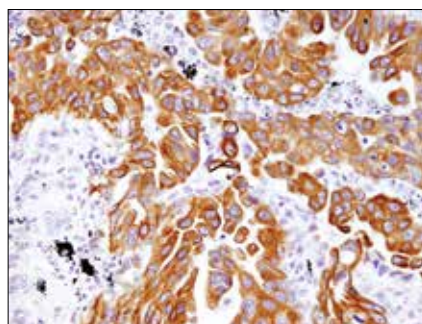
Background: ABCC4 is a member of the ATP-binding Cassette (ABC) transporter family. ABC proteins transport various molecules across cellular membranes by utilizing the energy generated from ATP hydrolysis. There are seven subfamilies of ABC proteins: ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, and White (1). ABCC4 belongs to the MRP subfamily, which is involved in multi-drug resistance, hence it is also named MRP4. ABCC4 is widely expressed in tissues including prostate, kidney proximal tubules, astrocytes and capillary endothelial cells of the brain, platelets, and many cancer cell lines (2-4). ABCC4 mediates efflux transport of a wide variety of endogenous and xenobiotic organic anionic compounds (5). The diversity of substrates determines the biological functions of ABCC4. It regulates cAMP levels in human leukemia cells, thereby controlling the proliferation and differentiation of leukemia cells (6). ABCC4 also enables COX deficient pancreatic cancer cells to obtain exogenous prostaglandins (7). Research studies have shown that ABCC4 expression is elevated in drug resistant cancer cells, which makes it a potential target for cancer therapy (8,9). ABCC4 localizes to both plasma membrane and intracellular membranous structures (10). Investigators have also implicated ABCC4 in the pathogenesis of Kawasaki disease, a childhood genetic disorder characterized by vasculitis (11).

Specificity/Sensitivity: MRP4/ABCC4 (D1Z3W) Rabbit mAb recognizes endogenous levels of total ABCC4 protein. This antibody cross-reacts with a nonspecific band at 47 kDa in some cell lines.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly192 of human ABCC4 protein.



Western blot analysis of extracts from membrane fraction of SW620, LNCaP, and HT-29 cells using MRP4/ABCC4 (D1Z3W) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human non-small cell lung carcinoma using MRP4/ABCC4 (D1Z3W) 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
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:1200†
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 and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

- (1) Nakanishi, T. *Cancer Genomics Proteomics* 4, 241-54.
- (2) Kool, M. et al. (1997) *Cancer Res* 57, 3537-47.
- (3) Lee, K. et al. (1998) *Cancer Res* 58, 2741-7.
- (4) Nies, A.T. et al. (2004) *Neuroscience* 129, 349-60.
- (5) Giacomini, K.M. et al. (2010) *Nat Rev Drug Discov* 9, 215-36.
- (6) Copsel, S. et al. (2011) *J Biol Chem* 286, 6979-88.
- (7) Omura, N. et al. (2010) *Mol Cancer Res* 8, 821-32.
- (8) Bronger, H. et al. (2005) *Cancer Res* 65, 11419-28.
- (9) Hagmann, W. et al. (2009) *Pancreatology* 9, 136-44.
- (10) Rius, M. et al. (2008) *J Pharmacol Exp Ther* 324, 86-94.
- (11) Khor, C.C. et al. (2011) *J Med Genet* 48, 467-72.

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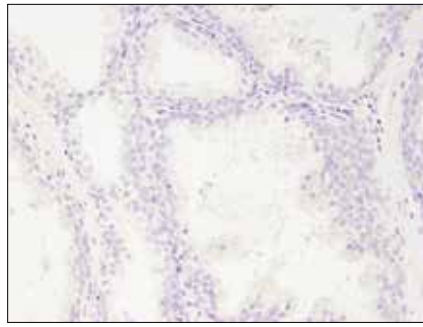
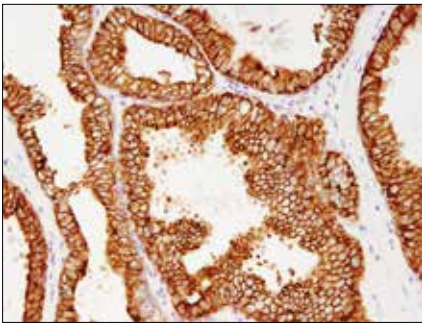
IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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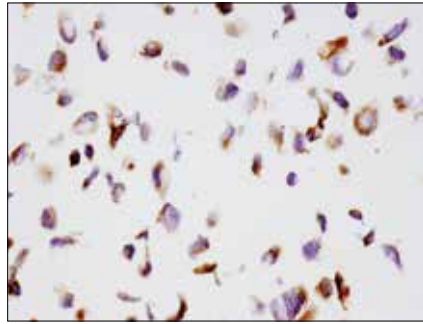
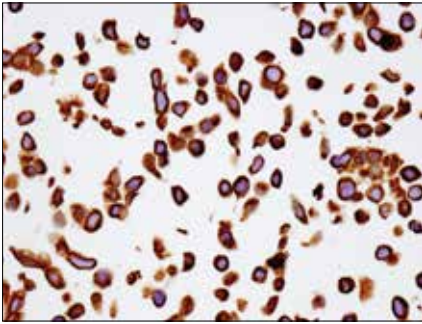
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Immunohistochemical analysis of paraffin-embedded human prostate carcinoma using MRP4/ABCC4 (D1Z3W) Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).



Immunohistochemical analysis of paraffin-embedded cell pellets, HT-29 (left) and U-2 OS (right), using MRP4/ABCC4 (D1Z3W) Rabbit mAb.