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ABCG2 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP50950

Product Information

Application	WB
Primary Accession	Q9UNQ0
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	72314

Additional Information

Gene ID	9429
Other Names	ATP-binding cassette sub-family G member 2, Breast cancer resistance protein, CDw338, Mitoxantrone resistance-associated protein, Placenta-specific ATP-binding cassette transporter, Urate exporter, CD338, ABCG2, ABCP, BCRP, BCRP1, MXR
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ABCG2. The exact sequence is proprietary.
Dilution	WB~~1:1000
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	ABCG2
Synonyms	ABCP, BCRP, BCRP1, MXR
Function	Broad substrate specificity ATP-dependent transporter of the ATP-binding cassette (ABC) family that actively extrudes a wide variety of physiological compounds, dietary toxins and xenobiotics from cells (PubMed:11306452, PubMed:12958161, PubMed:19506252, PubMed:20705604, PubMed:28554189, PubMed:30405239, PubMed:31003562). Involved in porphyrin homeostasis, mediating the export of protoporphyrin IX (PPIX) from both mitochondria to cytosol and cytosol to extracellular space, it also functions in the cellular export of heme (PubMed:20705604, PubMed:23189181). Also mediates the efflux of sphingosine-1-P from cells (PubMed:20110355). Acts as a urate exporter functioning in both renal and extrarenal urate excretion (PubMed:19506252, PubMed:20368174,

	PubMed:22132962, PubMed:31003562, PubMed:36749388). In kidney, it also functions as a physiological exporter of the uremic toxin indoxyl sulfate (By similarity). Also involved in the excretion of steroids like estrone 3-sulfate/E1S, 3beta-sulfooxy-androst-5-en-17-one/DHEAS, and other sulfate conjugates (PubMed:12682043, PubMed:28554189, PubMed:30405239). Mediates the secretion of the riboflavin and biotin vitamins into milk (By similarity). Extrudes pheophorbide a, a phototoxic porphyrin catabolite of chlorophyll, reducing its bioavailability (By similarity). Plays an important role in the exclusion of xenobiotics from the brain (Probable). It confers to cells a resistance to multiple drugs and other xenobiotics including mitoxantrone, pheophorbide, camptothecin, methotrexate, azidothymidine, and the anthracyclines daunorubicin and doxorubicin, through the control of their efflux (PubMed:11306452, PubMed:12477054, PubMed:15670731, PubMed:18056989, PubMed:31254042). In placenta, it limits the penetration of drugs from the maternal plasma into the fetus (By similarity). May play a role in early stem cell self-renewal by blocking differentiation (By similarity). In inflammatory macrophages, exports itaconate from the cytosol to the extracellular compartment and limits the activation of TFEB-dependent lysosome biogenesis involved in antibacterial innate immune response.
Cellular Location	Cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Mitochondrion membrane; Multi-pass membrane protein. Note=Enriched in membrane lipid rafts
Tissue Location	Highly expressed in placenta (PubMed:9850061). Low expression in small intestine, liver and colon (PubMed:9861027) Expressed in brain (at protein level) (PubMed:12958161)

Background

High-capacity urate exporter functioning in both renal and extrarenal urate excretion. Plays a role in porphyrin homeostasis as it is able to mediates the export of protoporhyrin IX (PPIX) both from mitochondria to cytosol and from cytosol to extracellular space, and cellular export of hemin, and heme. Xenobiotic transporter that may play an important role in the exclusion of xenobiotics from the brain. Appears to play a major role in the multidrug resistance phenotype of several cancer cell lines. Implicated in the efflux of numerous drugs and xenobiotics: mitoxantrone, the photosensitizer pheophorbide, camptothecin, methotrexate, azidothymidine (AZT), and the anthracyclines daunorubicin and doxorubicin.

References

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Doyle L.A.,et al.Proc. Natl. Acad. Sci. U.S.A. 95:15665-15670(1998).
Doyle L.A.,et al.Proc. Natl. Acad. Sci. U.S.A. 96:2569-2569(1999).
Kage K.,et al.Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
Komatani H.,et al.Cancer Res. 61:2827-2832(2001).