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Anti-ABCG2 Antibody

Catalog # AP50950

Product Information

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

Additional Information

Gene ID	9429
Other Names	ABCP; BCRP; BCRP1; MXR; 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
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ABCG2. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	ABCG2 (HGNC:74)
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 vitamins riboflavin and biotin into milk (By similarity). Involved in the excretion of the riboflavin-derived compound lumichrome into the intestinal lumen and in its secretion into milk (PubMed:39337371). 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 (PubMed:38181789). Operates at apical membranes of polarized cells such as hepatocytes and intestinal epithelial cells, where it may contribute to the efflux of conjugated substrates from intestine and liver into the intestinal lumen as well as their enterohepatic recycling. Can transport estrogen and androgen substrates conjugated with glucuronate or sulfate at C-3, C-16 and C-17 positions. Among androgen glucuronates, appears to selectively transport dihydrotestosterone-17-glucuronate while displaying no transporter activity toward testosterone, androsterone and etiocholanolone glucuronates (PubMed:29175180, PubMed:30959153, PubMed:39993711).

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

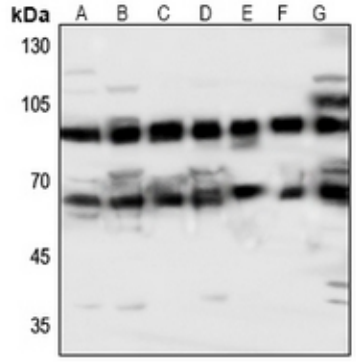
Highly expressed in placenta (PubMed:9850061). Low expression in small intestine, liver and colon (PubMed:9861027) Expressed in brain (at protein level) (PubMed:12958161)

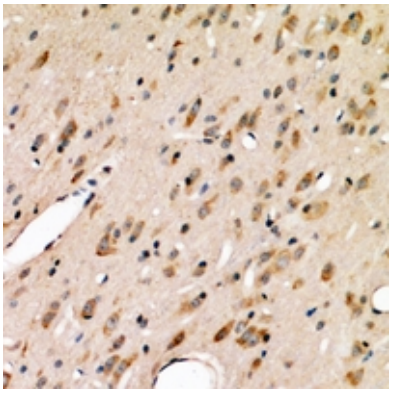
References

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Kage K.,et al.Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
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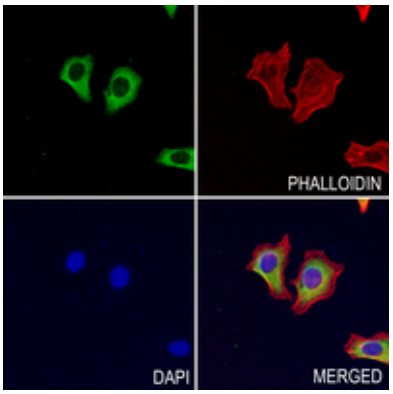
Images

Western blot analysis of ABCG2 expression in HEK293T (A), Hela (B), mouse kidney (C), rat lung (D), rat kidney (E), rat muscle (F), rat testis (G) whole cell lysates. (Predicted band size: 72; 67 kD; Observed band size: 90; 65 kD)





Immunohistochemical analysis of ABCG2 staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of ABCG2 staining in HepG2 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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