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Anti-BCRP/ABCG2 Antibody

Catalog # ABO11177

Product Information

Application	WB
Primary Accession	Q7TMS5
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for ATP-binding cassette sub-family G member 2(ABCG2) detection. Tested with WB in Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	26357
Other Names	ATP-binding cassette sub-family G member 2, Breast cancer resistance protein 1 homolog, Urate exporter, CD338, Abcg2, Abcp, Bcrp1
Calculated MW	72978
Application Details	Western blot, 0.1-0.5 □g/ml, Mouse, Rat
Subcellular Localization	Cell membrane ; Multi-pass membrane protein . Mitochondrion membrane ; Multi-pass membrane protein .
Tissue Specificity	Highly expressed in kidney. Lower expression in liver, colon, heart, spleen, and placenta. .
Source	Eukaryota
Protein Name	ATP-binding cassette sub-family G member 2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of mouse BCRP/ABCG2(152-167aa KNHEKNERINTIIKEL), different from the related rat sequence by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Belongs to the ABC transporter superfamily. ABCG family. Eye pigment precursor importer (TC 3.A.1.204) subfamily.

Protein Information

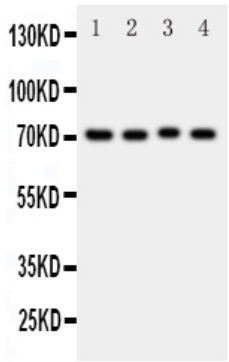
Name	Abcg2 {ECO:0000312|MGI:MGI:1347061}
Synonyms	Abcp, Bcrp1
Function	Broad substrate specificity ATP-dependent transporter of the ATP-binding cassette (ABC) family that actively extrudes a wide variety of physiological compounds, dietary toxins and xenobiotics from cells (PubMed:10485464, PubMed:12429862, PubMed:12477054, PubMed:17145775, PubMed:30042379). 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:12429862, PubMed:15044468). Also mediates the efflux of sphingosine-1-P from cells (By similarity). Acts as a urate exporter functioning in both renal and extrarenal urate excretion (By similarity). In kidney, it also functions as a physiological exporter of the uremic toxin indoxyl sulfate (PubMed:30042379). Also involved in the excretion of steroids like estrone 3-sulfate/E1S, 3beta-sulfooxy- androst-5-en-17-one/DHEAS, and other sulfate conjugates (By similarity). Mediates the secretion of the vitamins riboflavin and biotin into milk (PubMed:17145775). 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 (PubMed:12429862). Plays an important role in the exclusion of xenobiotics from the brain (PubMed:10485464). 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:12477054). In placenta, it limits the penetration of drugs from the maternal plasma into the fetus (PubMed:12429862). May play a role in early stem cell self-renewal by blocking differentiation (Probable). 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:39116875). 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.
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:Q9UNQ0}; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Mitochondrion membrane {ECO:0000250|UniProtKB:Q9UNQ0}; Multi-pass membrane protein. Note=Enriched in membrane lipid rafts. {ECO:0000250|UniProtKB:Q9UNQ0}
Tissue Location	Highly expressed in kidney. Lower expression in liver, colon, heart, spleen, and placenta (PubMed:11036110). Expressed in mammary gland

(PubMed:17145775). Expressed in intestinal villi and renal proximal tubules, hepatic bile canalicular membranes, and placental labyrinth cells (at protein level) (PubMed:12429862)

Background

ABCG2(Atp-binding cassette, subfamily g, member 2) also known as ABCP, BCRP or MRX, is a protein that in humans is encoded by the ABCG2 gene. The ABCG2 gene encodes a membrane transporter belonging to the ATP-binding cassette(ABC) superfamily of membrane transporters, which are involved in the trafficking of biologic molecules across cell membranes. The ABCG2 protein is also a high capacity transporter for uric acid excretion in the kidney, liver, and gut. The ABCG2 gene is mapped on 4q22.1. In vitro assays of isolated membrane preparations revealed a high-capacity, vanadate-sensitive ATPase activity associated with ABCG2 expression that was stimulated by compounds known to be transported by this protein. Ozvegy et al.(2001) concluded that ABCG2 is likely functioning as a homodimer or homooligomer in this expression system since it is unlikely that putative Sf9 transport partners would be overexpressed at similarly high levels.Abcg2 transports pheophorbide-a, which occurs in various plant-derived foods and food supplements and is highly efficient in limiting its uptake from ingested food. ABCG2 is a major factor in the concentrative transfer of drugs, carcinogens, and dietary toxins to the milk of mice, cows, and humans.

Images



Anti-BCRP/ABCG2 antibody, ABO11177, Western blottingAll lanes: Anti BCRP/ABCG2 (ABO11177) at 0.5ug/mlLane 1: Rat Liver Tissue Lysate at 50ugLane 2: Rat Spleen Tissue Lysate at 50ugLane 3: Rat Kidney Tissue Lysate at 50ugLane 4: Mouse Spleen Tissue Lysate at 50ugPredicted bind size: 72KDObserved bind size: 72KD

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