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ABCG2 Polyclonal Antibody

Catalog # AP68236

Product Information

Application	WB, IHC-P, IF, ICC, E
Primary Accession	Q9UNQ0
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	72314

Additional Information

Gene ID	9429
Other Names	ABCG2; 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; CD antigen CD338
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

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

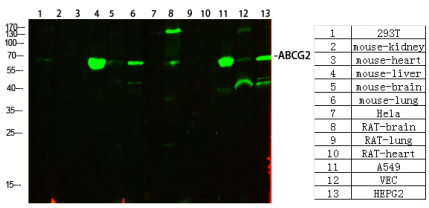
Tissue Location

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

Background

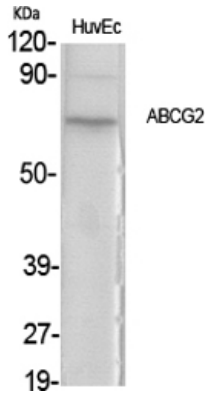
High-capacity urate exporter functioning in both renal and extrarenal urate excretion. Plays a role in porphyrin homeostasis as it is able to mediates the export of protoporhyrin IX (PPIX) both from mitochondria to cytosol and from cytosol to extracellular space, and cellular export of hemin, and heme. 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.

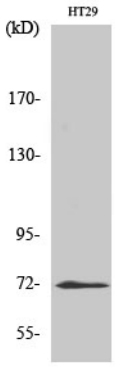
Images



Western Blot analysis of various cells using primary antibody diluted at 1:1000(4°C overnight). Secondary antibody：Goat Anti-rabbit IgG IRDye 800(diluted at 1:5000, 25°C, 1 hour)

Western Blot analysis of various cells using ABCG2 Polyclonal Antibody





Western Blot analysis of HT29 cells using ABCG2 Polyclonal Antibody

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