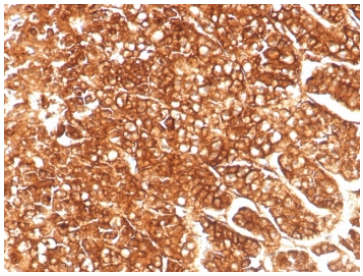
ABCB1 Antibody / ATP-binding cassette sub-family B member 1 / P-glycoprotein / MDR1 [clone MDR1/8986R] (V5208)

Catalog No.	Formulation	Size
V5208-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5208-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5208SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MDR1/8986R
Purity	Protein A/G affinity
UniProt	P08183
Localization	Membrane
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This ABCB1 antibody is available for research use only.



Immunohistochemistry analysis of ABCB1 / ATP-binding cassette sub-family B member 1 antibody in human adrenal gland. FFPE human adrenal gland tissue was stained with ABCB1 / ATP-binding cassette sub-family B member 1 antibody (clone MDR1/8986R). HRP-DAB brown chromogenic signal is observed predominantly along the plasma membrane of adrenal cortical cells, with strong membranous staining outlining cellular borders. Cytoplasmic staining is minimal, consistent with the expected membrane localization of the P-glycoprotein efflux transporter. The staining pattern highlights epithelial-like cortical cell populations, while surrounding stromal elements show limited background signal. Nuclei are counterstained blue. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 minutes followed by cooling prior to antibody incubation.

Description

ABCB1 antibody, also known as ATP-binding cassette sub-family B member 1 antibody, recognizes a transmembrane efflux transporter commonly referred to as P-glycoprotein and MDR1. ATP-binding cassette sub-family B member 1 is encoded by the ABCB1 gene located on chromosome 7q21.12 and belongs to the ATP-binding cassette transporter superfamily. The protein is predominantly localized to the plasma membrane, where it functions as an ATP-dependent drug efflux pump. ABCB1 is highly expressed in epithelial barrier tissues including intestine, liver canalicular membranes, kidney proximal tubules, blood-brain barrier endothelium, and placenta, where it contributes to xenobiotic protection and pharmacokinetic regulation.

ATP-binding cassette sub-family B member 1 plays a central role in multidrug resistance by transporting a broad range of structurally unrelated substrates out of cells. Through ATP hydrolysis, ABCB1 reduces intracellular accumulation of chemotherapeutic agents, contributing to treatment resistance in various cancers. ABCB1 antibody, also referred to as MDR1 antibody and P-glycoprotein antibody in the literature, is widely used to investigate drug transport, cancer chemoresistance mechanisms, and epithelial barrier function.

Structurally, ABCB1 contains two transmembrane domains forming the substrate translocation pathway and two cytoplasmic nucleotide-binding domains responsible for ATP binding and hydrolysis. Conformational changes driven by ATP hydrolysis power substrate extrusion across the membrane. The protein is glycosylated and undergoes post-translational modifications that influence stability and membrane localization. In polarized epithelial cells, ABCB1 is enriched at the apical membrane, where it mediates directional transport.

Dysregulated ABCB1 expression is strongly associated with multidrug resistance in malignancies including breast, ovarian, colorectal, and hematologic cancers. Elevated expression correlates with decreased intracellular drug retention and reduced therapeutic efficacy. Beyond oncology, ABCB1 influences pharmacokinetics, blood-brain barrier permeability, and toxin clearance. Recombinant monoclonal clone MDR1/8986R recognizes ATP-binding cassette sub-family B member 1 and is suitable for detecting ABCB1 expression in relevant research applications.

Application Notes

Optimal dilution of the ABCB1 antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 500-700) from the human protein was used as the immunogen for the ABCB1 antibody.

Storage

Aliquot the ABCB1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.