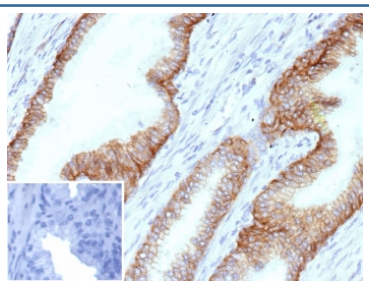
MOAT-B Antibody / Multidrug Resistance Transporter Antibody [clone ABCC4/9178] (V5644)

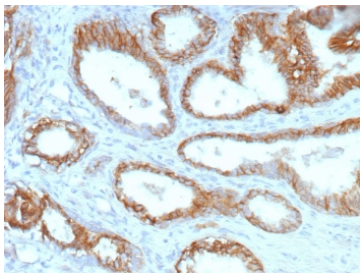
Catalog No.	Formulation	Size
V5644-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5644-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5644SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

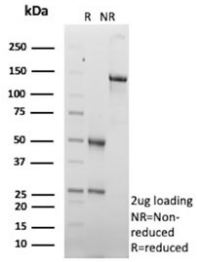
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	ABCC4/9178
Purity	Protein G affinity
UniProt	O15439
Localization	Membrane
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This MOAT-B antibody is available for research use only.



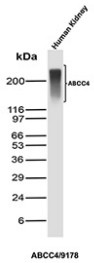
MOAT-B Antibody Human Prostate IHC. Immunohistochemistry staining of FFPE human prostate tissue with MOAT-B antibody (clone ABCC4/9178). Inset: PBS used in place of primary Ab (secondary Ab negative control). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



MOAT-B Antibody Prostate Tissue IHC. Immunohistochemistry staining of FFPE human prostate tissue with MOAT-B antibody (clone ABCC4/9178). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free MOAT-B antibody (clone ABCC4/9178) as confirmation of integrity and purity.



MOAT-B Antibody WB. Western blot analysis of ABCC4 in human kidney lysate using an ABCC4 / MOAT-B antibody (clone ABCC4/9178). A broad immunoreactive band is detected in the ~200 kDa region, consistent with the predicted molecular weight of ATP-binding cassette sub-family C member 4. The diffuse migration pattern may reflect heterogenous electrophoretic mobility often observed for large, multi-pass membrane transporters.

Description

Multidrug resistance-associated protein 4 (ABCC4), also known as MOAT-B and MRP4, is a member of the ATP-binding cassette (ABC) transporter family that mediates ATP-dependent efflux of a wide range of endogenous signaling molecules and xenobiotic compounds. ABCC4 is primarily localized to the plasma membrane, where it functions as an active transporter regulating intracellular concentrations of cyclic nucleotides, prostaglandins, and therapeutic agents. The MOAT-B Antibody is designed to detect this membrane-associated transporter, supporting studies of drug transport, multidrug resistance, and signaling regulation.

MOAT-B antibody, also referred to as ABCC4 antibody and MRP4 antibody in the literature, recognizes a broadly expressed transporter protein found in tissues including kidney, liver, brain, and hematopoietic compartments. ABCC4 is particularly enriched in epithelial barrier tissues where directional transport is required, such as renal tubular epithelium and hepatobiliary systems. Western blot analysis typically detects ABCC4 as a high-molecular-weight band above 130 kDa, consistent with its predicted size and glycosylated membrane protein structure, although migration may vary depending on sample preparation and glycosylation status.

Structurally, ABCC4 contains two transmembrane domains and two cytosolic nucleotide-binding domains characteristic of ABC transporters, enabling ATP binding and hydrolysis to drive substrate transport across cellular membranes. The protein undergoes glycosylation, which contributes to its apparent molecular weight and influences electrophoretic mobility. Its membrane localization and transporter architecture distinguish it from intracellular metabolic enzymes and reflect its role in active substrate export.

Functionally, ABCC4 plays a central role in regulating intracellular signaling pathways through the export of cyclic nucleotides such as cAMP and cGMP, as well as lipid mediators including prostaglandins. By controlling the extracellular availability of these molecules, ABCC4 contributes to processes such as inflammation, vascular tone regulation, and platelet activation. In epithelial tissues, it supports directional transport and contributes to maintenance of tissue homeostasis.

ABCC4 is also a key mediator of multidrug resistance in cancer, where its expression can reduce intracellular accumulation of chemotherapeutic agents, contributing to decreased drug sensitivity. Its activity has been linked to resistance against antiviral, anticancer, and anti-inflammatory drugs, making it an important target in pharmacology and cancer research. Expression of ABCC4 in tumor cells and surrounding tissue compartments highlights its role in shaping drug response and tumor microenvironment signaling.

Beyond oncology, ABCC4 contributes to immune regulation and physiological signaling by modulating extracellular concentrations of signaling molecules in diverse tissues. Its broad substrate specificity and tissue distribution underscore its importance in both normal physiology and disease states. Clone ABCC4/9178 is a mouse monoclonal antibody designed to detect MOAT-B (ABCC4) with high specificity. Its ability to identify this transporter in cell and tissue samples supports research into drug transport mechanisms, cellular signaling, and multidrug resistance biology.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the MOAT-B antibody should be determined by the researcher.

Immunogen

A portion of amino acids 1-200 from human ABCC4 protein was used as the immunogen for the MOAT-B antibody.

Storage

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

Alternate Names

MOAT-B antibody, ABCC4 antibody, MRP4 antibody, Multidrug resistance protein 4 antibody, ABCC4 transporter antibody