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Datasheet for 600-401-945

ABCB6 Antibody

Overview

Description:	Anti-ABCB6 (RABBIT) Antibody - 600-401-945
Item No.:	600-401-945
Size:	100 µg
Applications:	ELISA, WB, Biochemical Assay, IF
Reactivity:	Human, Dog
Host Species:	Rabbit

Product Details

Background:	This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. ABCB6 (ATP-binding cassette sub-family B member 6) is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABCB6 is a membrane-associated protein that transports various molecules across the extra- and intra-cellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, DR/TAP, MRP, ALD, OABP, GCN20, White). This protein is a member of the MDR/TAP subfamily. Members of the MDR/TAP subfamily confer multi-drug resistance (MDR) to cancer cells and are also involved in antigen presentation. ABCB6 also likely plays a role in mitochondrial function. Localized to 2q26, this gene is considered a candidate gene for lethal neonatal metabolic syndrome, a disorder of mitochondrial function. Anti-ABCB6 is ideal for researchers interested in heme synthesis.
Synonyms:	rabbit anti-ABCB6 Antibody, ABCB 6, ABCB-6, ABC transporter umat antibody, ABC14 antibody, ATP binding cassette sub family B member 6, mitochondrial precursor antibody, mitochondrial precursor ABC transporter 3, Mt-ABC transporter 3
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	ABCB6
Reactivity:	Human, Dog

Immunogen Type:	Conjugated Peptide
Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near amino acids 430-465 of human ABCB6 protein.
Purity/Specificity:	This affinity-purified antibody is directed against human ABCB6 protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross reactivity with ABCB6 protein from human and dog based on 100% homology with the immunizing sequence. Expect partial reactivity with ABCB6 from mouse and rat sources based on partial (~93%, 15/16) sequence homology. Reactivity against homologues from other sources is not known.
Relevant Links:	• UniProtKB - Q9NP58 • NCBI - 13123949 • GeneID - 10058

Application Details

Tested Applications:	ELISA, WB
Suggested Applications:	Biochemical Assay, IF (Based on references)
Application Note:	This affinity-purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 94 kDa in size corresponding to ABCB6 protein by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:40,000 - 1:130,000
WB:	1:1,000 - 1:5,000

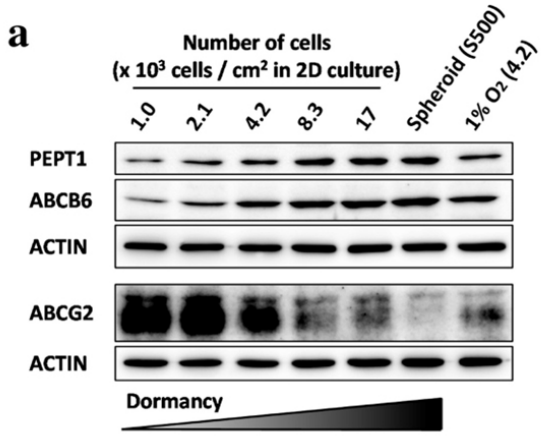
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

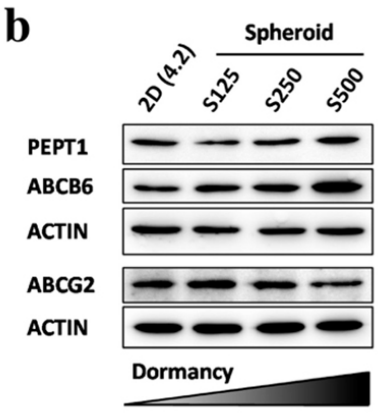
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

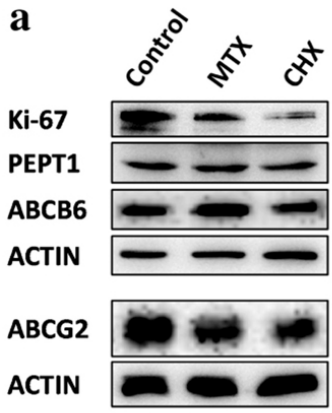
Images



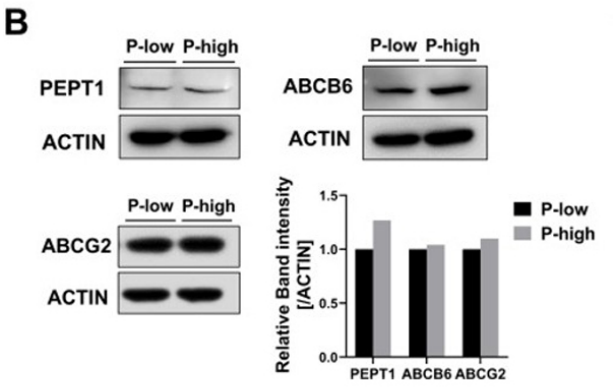
Western Blot
The protein expressions of PEPT1, ABCB6, and ABCG2 were detected by Western blotting.
No cells were incubated with 1 mM ALA. (a) Expression at different cell density in the 2D culture. Fig 5.
PMID: 27857072



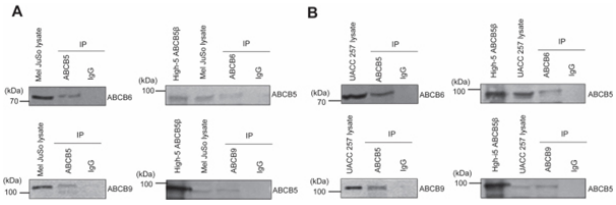
Western Blot
The protein expressions of PEPT1, ABCB6, and ABCG2 were detected by Western blotting.
No cells were incubated with 1 mM ALA. (b) Expression with different sizes of spheroids. Fig 5. PMID: 27857072



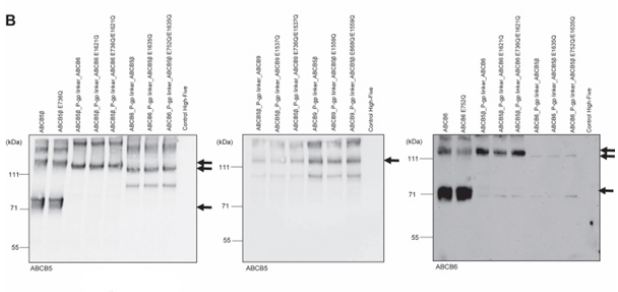
Western Blot
Porphyrin metabolism changed in cancer cells on addition of methotrexate (MTX) or cycloheximide (CHX). MTX was cultured with 10 μM and CHX was cultured with 10 μg/ml for 48 h. (a) Protein expression was detected by Western blotting. Fig 6. PMID: 27857072



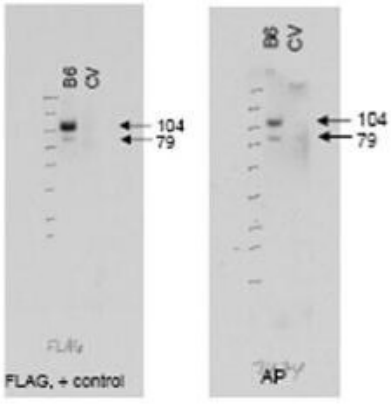
Western Blot
(B) Protein expression levels of porphyrin biosynthesis-related transporters PEPT1, ABCB6, and ABCG2. β-actin was used as the loading control. Fig 3. PMID: 40064433



Immunoprecipitation
Coimmunoprecipitation of ABCB5β-ABCB6 and ABCB5β-ABCB9 demonstrates the presence of these heterodimers in Mel JuSo and UACC-257 cells. The Mel JuSo (A) or UACC-257 (B) proteins were immunoprecipitated (IP) with either an anti-ABCB5, anti-ABCB6, or anti-ABCB9 antibody. The precipitated proteins were revealed by Western blotting after SDS-PAGE using the corresponding antibody indicated on the right side of each blot. Fifteen micrograms of total proteins from the starting cell lysate were loaded in the first lane, while the total IP eluate was loaded on the gel. ABCB5β was expressed in High-Five insect cells, and total membrane proteins were prepared and loaded on the gel (High5 ABCB5β) as a complementary molecular weight marker when using anti-ABCB5. An isotype control was performed to determine the specificity of the signal obtained in Western blot. Fig 3. PMID: 38145744



Western Blot
Expression of ABCB5β, ABCB6, ABCB5β_P-gp linker_ABCB6, ABCB6_P-gp linker_ABCB5β, ABCB9, ABCB5β_P-gp linker_ABCB9, and ABCB9_P-gp linker_ABCB5β in High-Five insect cells. Total membranes vesicles prepared from High-Five cells infected with baculovirus containing either ABCB5β, ABCB6, ABCB9, ABCB5β_P-gp linker_ABCB6, ABCB6_P-gp linker_ABCB5β, ABCB5β_P-gp linker_ABCB9, ABCB9_P-gp linker_ABCB5β and their corresponding EQ mutants were subjected to SDS-PAGE, followed by Western blotting with anti-ABCB5 and anti-ABCB6 antibodies (B). Bands of interest are highlighted by black arrows. Fig 5. PMID: 38145744



Western Blot
Western blot using Rockland's affinity purified anti-ABCB6 antibody (right panel, lane B6) shows detection of Flag tagged human ABCB6 protein at 104 kDa and a truncated form of the protein at 79 kDa (arrowheads). The antibody successfully detected ABCB6 in KB cells transfected with the ABCB6 protein. A lysate prepared from KB cells without a vector insert (CV lane) showed no reactivity with the antibody. The left panel shows a similar staining pattern using an anti-Flag™ antibody as a positive control. The membrane was probed with the primary antibody diluted to 1:1,400. Personal Communication, Jill Paterson, CCR-NCI, Bethesda, MD.

References

- Kasai S et al. Highly malignant tumor cells accumulate less PpIX and enhanced cell dormancy increases PpIX accumulation. *Photodiagnosis Photodyn Ther.* (2025)
- Gerard L et al. Identification of two novel heterodimeric ABC transporters in melanoma: ABCB5β/B6 and ABCB5β/B9. *J Biol Chem.* (2023)
- Nakayama et al. Dormant cancer cells accumulate high protoporphyrin IX levels and are sensitive to 5-aminolevulinic acid-based photodynamic therapy. *Scientific Reports* (2016)

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