

Anti-BCRP/ABCG2 Antibody Picoband™

Catalog Number: PB9364

About ABCG2

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.

Overview

Product Name	Anti-BCRP/ABCG2 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-BCRP/ABCG2 Antibody Picoband™ catalog # PB9364. Tested in Flow Cytometry, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IHC, ICC, WB
Clonality	Polyclonal G9
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q9UNQ0

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human ABCG2, different from the related mouse sequence by five amino acids, and from the related rat sequence by eight amino acids.
Predicted Reactive Species	Hamster
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) and ICC.

Cross Reactivity	No cross reactivity with other proteins.
Form	Lyophilized
Concentration	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Immunohistochemistry (Frozen Section), 0.5-1ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, By Heat Immunocytochemistry, 0.5-1ug/ml Western blot, 0.1-0.5ug/ml Flow Cytometry, 1-3ug/1x10⁶ cells

Anti-BCRP/ABCG2 Antibody Picoband™ (PB9364) Images

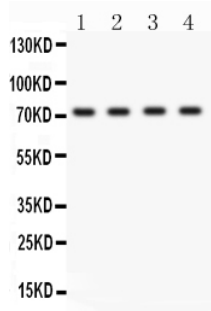


Figure 1. Western blot analysis of ABCG2 using anti-ABCG2 antibody (PB9364). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: Human Placenta Tissue Lysate,
Lane 2: HELA Whole Cell Lysate,
Lane 3: PANC Whole Cell Lysate,
Lane 4: COLO320 Whole Cell Lysate
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ABCG2 antigen affinity purified polyclonal antibody (Catalog # PB9364) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for ABCG2 at approximately 72KD. The expected band size for ABCG2 is at 72KD.

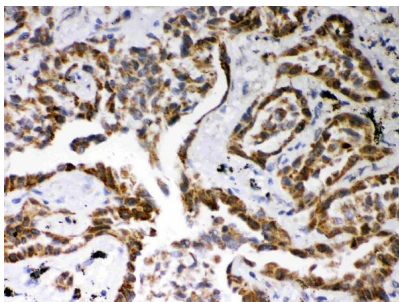


Figure 2. IHC analysis of ABCG2 using anti-ABCG2 antibody (PB9364). ABCG2 was detected in paraffin-embedded section of Human Lung Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-ABCG2 Antibody (PB9364) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

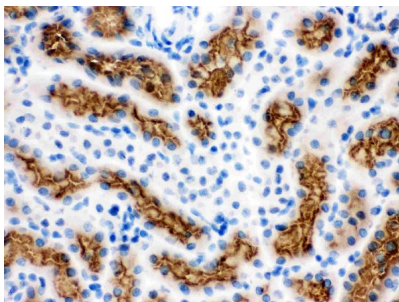
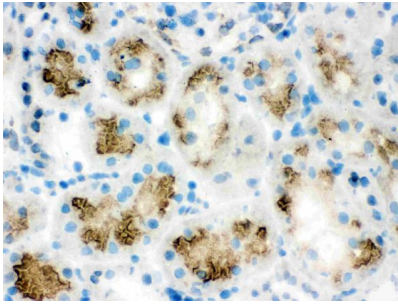


Figure 3. IHC analysis of ABCG2 using anti-ABCG2 antibody (PB9364). ABCG2 was detected in frozen section of Mouse Kidney Tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-ABCG2 Antibody (PB9364) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of ABCG2 using anti-ABCG2 antibody (PB9364). ABCG2 was detected in frozen section of Rat Kidney Tissue. The tissue section was blocked with 10% goat serum. The



tissue section was then incubated with 1ug/ml rabbit anti-ABCG2 Antibody (PB9364) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

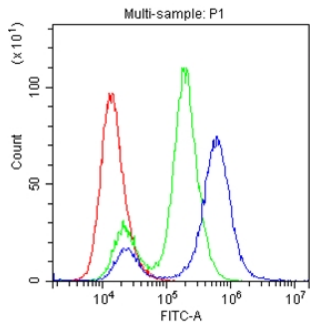


Figure 5. Flow Cytometry analysis of U-87MG cells using anti-ABCG2 antibody (PB9364).

Overlay histogram showing U-87MG cells stained with PB9364 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-ABCG2 Antibody (PB9364, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

7 Publications Citing This Product

1. PubMed ID: 10.3892/ol.2013.1103, Characterization of side population cells isolated from the gastric cancer cell line SGC-7901
2. PubMed ID: 23426065, Li R, Wu X, Wei H, Tian S. Oncol Lett. 2013 Mar;5(3):877-883. Epub 2013 Jan 2. Characterization Of Side Population Cells Isolated From The Gastric Cancer Cell Line Sgc-7901.
3. PubMed ID: 26563263, Reversion of malignant phenotypes of human glioblastoma cells by γ -elemene through γ -catenin-mediated regulation of stemness-, differentiation- and epithelial-to-mesenchymal transition-related molecules

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