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Anti-BCRP/ABCG2 Antibody Picoband®

Catalog Number: A00457-2

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. It is mapped on 4q22.1. 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. 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. 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.

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Overview

Product Name	Anti-BCRP/ABCG2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-BCRP/ABCG2 Antibody Picoband® catalog # A00457-2. Tested in ELISA, Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.01mg 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

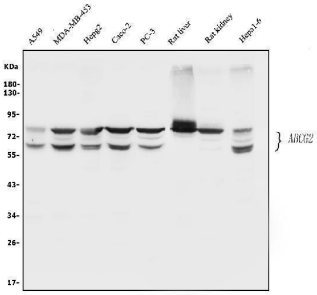
Technical Details

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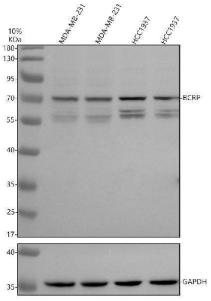
Immunogen	E.coli-derived human BCRP/ABCG2 recombinant protein (Position: M1-R378).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 1-2ug/ml, Human, Mouse Flow Cytometry (Fixed), 1-3ug/1x10^6 cells, Human ELISA, 0.1-0.5ug/ml, - Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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Anti-BCRP/ABCG2 Antibody Picoband® (A00457-2) Images



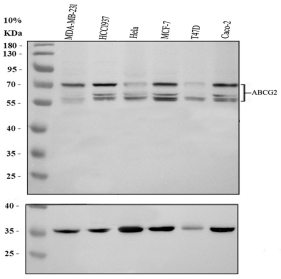
Western blot analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human A549 whole cell lysates, Lane 2: human MDA-MB-453 whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: human Caco-2 whole cell lysates, Lane 5: human PC-3 whole cell lysates, Lane 6: rat liver tissue lysates, Lane 7: rat kidney tissue lysates, Lane 8: mouse HEPA1-6 whole cell lysates. 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-BCRP/ABCG2 antigen affinity purified polyclonal antibody (Catalog # A00457-2) 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 BCRP/ABCG2 at approximately 65-80KD. The expected band size for BCRP/ABCG2 is at 72KD.



Western blot analysis of BCRP using anti-BCRP antibody (A00457-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: huamn MDA-MB-231 whole cell lysates, Lane 2: human MDA-MB-231 whole cell lysates, Lane 3: human HCC1937 whole cell lysates, Lane 4: human HCC1937 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-BCRP antigen affinity purified polyclonal antibody (A00457-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween-20 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for BCRP at approximately 72 kDa. The expected band size for BCRP is at 72 kDa.

Western blot analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human MDA-MB-231 whole cell lysates,

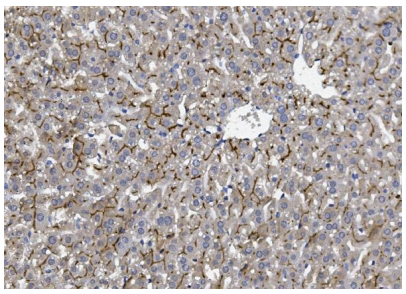
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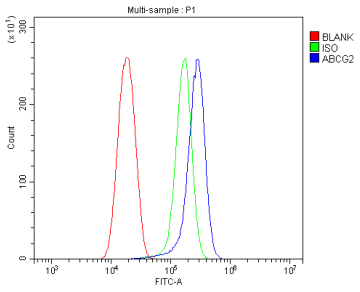
Lane 2: human HCC1937 whole cell lysates, Lane 3: human HeLa whole cell lysates, Lane 4: human MCF-7 whole cell lysates, Lane 5: human T47D whole cell lysates, Lane 6: human Caco-2 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BCRP/ABCG2 antigen affinity purified polyclonal antibody (A00457-2) 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 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for BCRP/ABCG2 at approximately 65-80 kDa. The expected band size for BCRP/ABCG2 is at 72 kDa.



IHC analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2). BCRP/ABCG2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-BCRP/ABCG2 Antibody (A00457-2) 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 Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2). BCRP/ABCG2 was detected in paraffin-embedded section of mouse liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2ug/ml rabbit anti-BCRP/ABCG2 Antibody (A00457-2) 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 Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



Flow Cytometry analysis of SiHa cells using anti-BCRP/ABCG2 antibody (A00457-2).Overlay histogram showing SiHa cells stained with A00457-2 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-BCRP/ABCG2 Antibody (A00457-2,1ug/1x106 cells) for 30 min at 20°C. DyLight®488 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 without incubation with primary antibody

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and secondary antibody (Red line) was used as a blank control.

3 Publications Citing This Product

1. PubMed ID: 10.3892/ijo.2014.2448, beta-elemene inhibits stemness, promotes differentiation and impairs chemoresistance to temozolomide in glioblastoma stem-like cells

2. PubMed ID: 10.1016/j.jep.2013.10.028, The mechanism of the opening of the blood–brain barrier by borneol: A pharmacodynamics and pharmacokinetics combination study

3. PubMed ID: -, Panchamia, Shail. (2020). To Investigate The Impact Of Gut Bacteria On Efflux Transporter Expression And Function In Gastrointestinal Mucosae. Retrieved from the University of Minnesota Digital Conservancy, https://hdl.handle.net/11299/215018.

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