BOSTER
antibody and ELISA experts

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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.

## Overview

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| 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. |
| 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). |
| Predicted Reactive Species | Chicken |
| 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 |

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|---|---|
| Form | Lyophilized |
| Concentration | Adding 0.2 ml of distilled water will yield a concentration of 500 ug/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.<br>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.<br>Some PubMed article(s) citing the expression level of this target are as follows:<br>Boster Bio's internal QC testing used:<br>Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat<br>Immunohistochemistry (Paraffin-embedded Section), 1-2ug/ml, Human, Mouse<br>Flow Cytometry, 1-3ug/1x$10^6$ cells, Human<br>Direct ELISA, 0.1-0.5ug/ml, Human |

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

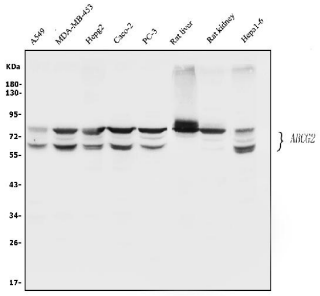


Figure 1. Western blot analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human 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.

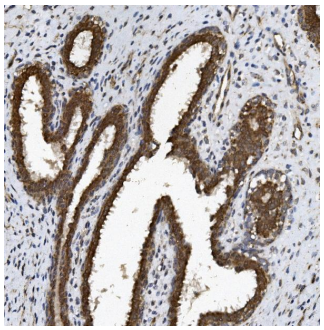

Figure 2. IHC analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2).
BCRP/ABCG2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% 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.

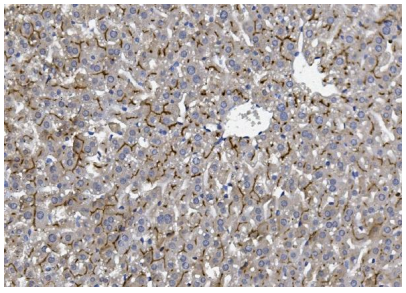

Figure 3. IHC analysis of BCRP/ABCG2 using anti-BCRP/ABCG2 antibody (A00457-2).
BCRP/ABCG2 was detected in paraffin-embedded section of mouse liver tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. 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.

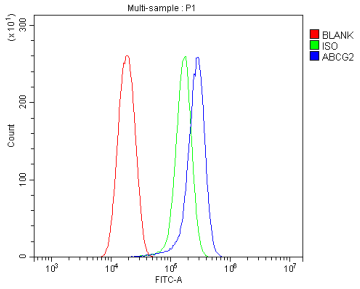


Figure 4. Flow Cytometry analysis of SiHa cells using anti-BCRP/ABCG2 antibody (A00457-2).
Overlay histogram showing SiHa cells stained with A00457-2 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-BCRP/ABCG2 Antibody (A00457-2,1ug/1x$10^6$ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x$10^6$ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x$10^6$) used under the same conditions. Unlabelled sample (Red line) was also used as a 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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