

Anti-P Glycoprotein/ABCB1 Antibody Picoband®

Catalog Number: A00049-3

About ABCB1

P-GP, also called ABCB1 or PGY1, is a glycoprotein that in humans is encoded by the ABCB1 gene. It is mapped to 7q21.12. P-GP is a well-characterized ABC-transporter (which transports a wide variety of substrates across extra- and intracellular membranes) of the MDR/TAP subfamily. It is an important protein of the cell membrane that pumps many foreign substances out of cells. More formally, it is an ATP-dependent drug efflux pump with broad substrate specificity. P-GP is an ATP-dependent drug efflux pump for xenobiotic compounds with broad substrate specificity. It is responsible for decreased drug accumulation in multidrug-resistant cells and often mediates the development of resistance to anticancer drugs. This protein also functions as a transporter in the blood-brain barrier.

Overview

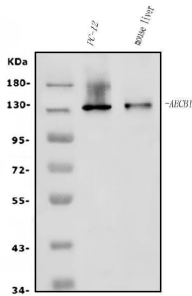
Product Name	Anti-P Glycoprotein/ABCB1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-P Glycoprotein/ABCB1 Antibody Picoband® catalog # A00049-3. Tested in ELISA, Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates 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 and 0.2mg Na ₂ HPO ₄ .
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	P08183

Technical Details

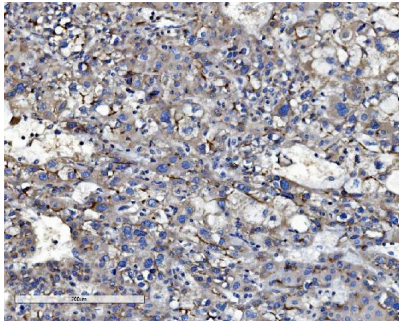
Immunogen	E.coli-derived human P Glycoprotein/ABCB1 recombinant protein (Position: R669-Y710).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
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, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Flow Cytometry (Fixed), 1-3ug/1x10 ⁶ cells, Human ELISA, 0.1-0.5ug/ml, -

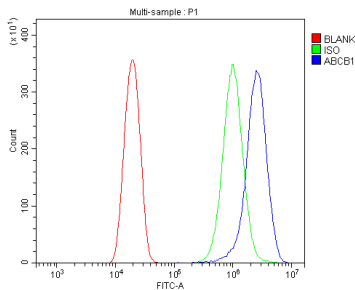
Anti-P Glycoprotein/ABCB1 Antibody Picoband® (A00049-3) Images



Western blot analysis of P Glycoprotein/ABCB1 using anti-P Glycoprotein/ABCB1 antibody (A00049-3). 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 30ug of sample under reducing conditions. Lane 1: rat PC-12 whole cell lysates, Lane 2: mouse liver tissue 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-P Glycoprotein/ABCB1 antigen affinity purified polyclonal antibody (Catalog # A00049-3) 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 Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for P Glycoprotein/ABCB1 at approximately 140KD. The expected band size for P Glycoprotein/ABCB1 is at 140KD.



IHC analysis of P Glycoprotein/ABCB1 using anti-P Glycoprotein/ABCB1 antibody (A00049-3). P Glycoprotein/ABCB1 was detected in paraffin-embedded section of human liver 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-P Glycoprotein/ABCB1 Antibody (A00049-3) 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.



Flow Cytometry analysis of U2OS cells using anti-P Glycoprotein/ABCB1 antibody (A00049-3). Overlay histogram showing U2OS cells stained with A00049-3 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-P Glycoprotein/ABCB1 Antibody (A00049-3, 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 and secondary antibody (Red line) was used as a blank control.

5 Publications Citing This Product

1. PubMed ID: 10.1211/jpp.61.06.0016, Glutathione depletion upregulates P-glycoprotein expression at the blood-brain barrier in rats

2. PubMed ID: 10.1016/j.ijdevneu.2013.10.005, In vitro and in vivo study of dolichyl phosphate on the efflux activity of P-glycoprotein at the blood–brain barrier

3. PubMed ID: 10.1021/ac9026127, Design and Implementation of Electrochemical Cytosensor for Evaluation of Cell Surface Carbohydrate and Glycoprotein

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