

Anti-VDAC/Porin/VDAC1 Antibody Picoband™

Catalog Number: PB9455

About VDAC1

The voltage-dependent anion channel (VDAC) of the outer mitochondrial membrane is a small, abundant outer membrane pore-forming protein found in the outer membranes of all eukaryotic mitochondria. The VDAC protein is thought to form the major pathway for movement of adenine nucleotides through the outer membrane and to be the mitochondrial binding site for hexokinase and glycerol kinase. At low transmembrane voltage, VDAC is open for anions such as phosphate, chloride, and adenine nucleotides. At higher transmembrane voltage, VDAC functions as a selective channel for cations and uncharged molecules. These features make VDAC likely to play a role in mitochondrial energy metabolism. Huizing et al. studied by Northern and Western blot analyses the human tissue distribution of mitochondrial transmembrane metabolite carriers. They found that VDAC1 mRNA has a ubiquitous distribution, with most pronounced expression in heart, liver, and skeletal muscle, whereas the VDAC2 isoform appears to be expressed only in the heart.

Overview

Product Name	Anti-VDAC/Porin/VDAC1 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-VDAC/Porin/VDAC1 Antibody Picoband™ catalog # PB9455. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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	P21796

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human VDAC/Porin, different from the related mouse and rat sequences by one amino acid.
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).
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	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 (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat

Anti-VDAC/Porin/VDAC1 Antibody Picoband™ (PB9455) Images

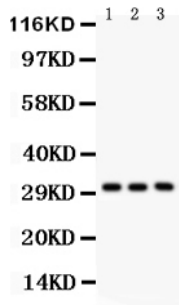


Figure 1. Western blot analysis of VDAC using anti-VDAC antibody (PB9455). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. Lane 1: Rat Liver Tissue Lysate at 50ug, Lane 2: Mouse Liver Tissue Lysate at 50ug, Lane 3: SMMC Whole Cell Lysate at 40ug. 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-VDAC antigen affinity purified polyclonal antibody (Catalog # PB9455) 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 VDAC at approximately 31 kDa. The expected band size for VDAC is at 31 kDa.

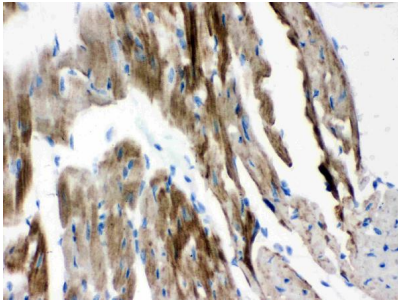


Figure 2. IHC analysis of VDAC using anti-VDAC antibody (PB9455). VDAC was detected in a paraffin-embedded section of mouse cardiac muscle tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-VDAC Antibody (PB9455) 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.

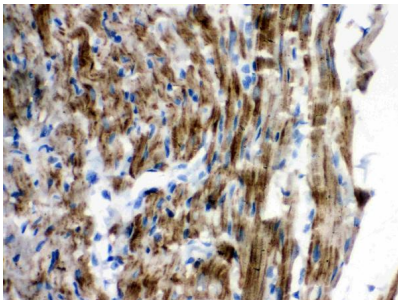
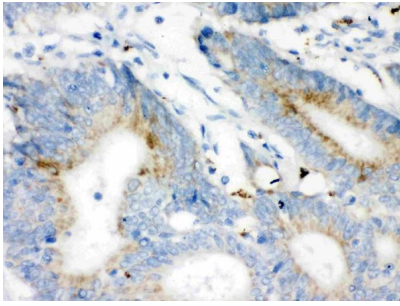


Figure 3. IHC analysis of VDAC using anti-VDAC antibody (PB9455). VDAC was detected in a paraffin-embedded section of rat cardiac muscle tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-VDAC Antibody (PB9455) 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 VDAC using anti-VDAC antibody (PB9455). VDAC was detected in a paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope



retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-VDAC Antibody (PB9455) 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.

6 Publications Citing This Product

1. PubMed ID: 10.1007/s43032-021-00779-w, Chronic Hypoxia Inhibits Respiratory Complex IV Activity and Disrupts Mitochondrial Dynamics in the Fetal Guinea Pig Forebrain
2. PubMed ID: 10.1007/s00795-021-00306-5, Nicorandil, an ATP-sensitive potassium channel activation, attenuates myocardial injury in rats with ischemic cardiomyopathy
3. PubMed ID: 30085007, Song H, Telugu BP, Thompson LP. Sexual dimorphism of mitochondrial function in the hypoxic guinea pig placenta. Biol Reprod. 2019 Jan 1;100(1):208-216. doi:10.1093/biolre/iy167. PMID:30085007; PMCID:PMC6335207.

Visit bosterbio.com/anti-vdac-porin-picoband-trade-antibody-pb9455-boster.html to see all 6 publications.

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