

## Anti-Kv2.1/KCNB1 Antibody Picoband®

Catalog Number: PB9111

### About KCNB1

KCNB1, also known as Kv2.1 or DRK1, is a protein that, in humans, is encoded by the KCNB1 gene. It is mapped to 20q13.13. KCNB1 is found in cardiomyocytes, skeletal muscles, vascular smooth muscles, placental vasculature, retina, and pancreatic beta-cells. It can mediate the voltage-dependent potassium ion permeability of excitable membranes. KCNB1 represents the most complex class of voltage-gated ion channels from both functional and structural standpoints. Their diverse functions include regulating neurotransmitter release, heart rate, insulin secretion, neuronal excitability, epithelial electrolyte transport, smooth muscle contraction, and cell volume.

### Overview

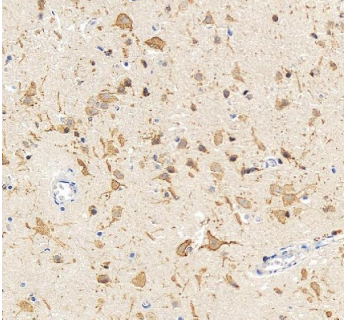
|                      |  |
|----------------------|--|
| Product Name         | Anti-Kv2.1/KCNB1 Antibody Picoband®  |
| Reactive Species     | Human, Mouse, Rat  |
| Description          | Boster Bio Anti-Kv2.1/KCNB1 Antibody Picoband® catalog # PB9111. Tested in IHC, WB applications. This antibody 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          | IHC, WB  |
| Clonality            | Polyclonal   |
| Formulation          | Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> , and 0.05 mg NaN <sub>3</sub> .<br>*This antibody is supplied in a stabilized formulation.<br>Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required. |
| 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           | Q14721   |

### Technical Details

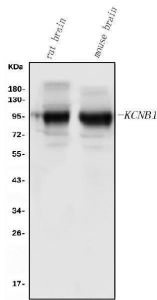
|                               |   |
|-------------------------------|---|
| Immunogen                     | E.coli-derived human Kv2.1 recombinant protein (Position: V687-I858). Human Kv2.1 shares 88% amino acid (aa) sequence identity with both mouse and rat Kv2.1.                               |
| 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) and IHC(F). |

|                     |   |
|---------------------|---|
| 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, 0.1-0.5ug/ml, Mouse, Rat<br>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat<br>Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse, Rat, - |

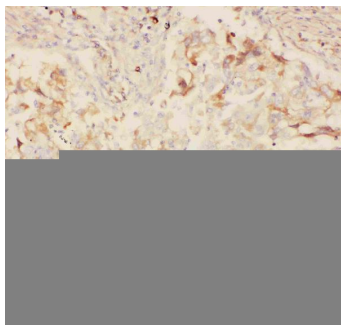
## Anti-Kv2.1/KCNB1 Antibody Picoband® (PB9111) Images



IHC analysis of KCNB1 using anti-KCNB1 antibody (PB9111). KCNB1 was detected in a paraffin-embedded section of human brain 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 2 ug/ml rabbit anti-KCNB1 Antibody (PB9111) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

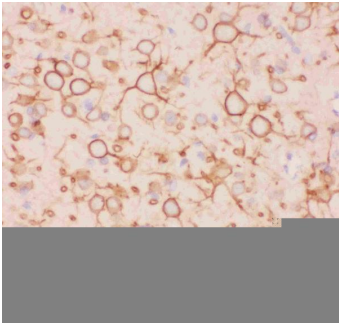


Western blot analysis of Kv2.1 using anti-Kv2.1 antibody (PB9111). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue 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-Kv2.1 antigen affinity purified polyclonal antibody (Catalog # PB9111) 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 Kv2.1 at approximately 96 kDa. The expected band size for Kv2.1 is at 96 kDa.

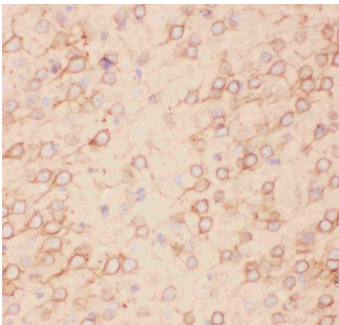


IHC analysis of KV2.1 using anti-KV2.1 antibody (PB9111). KV2.1 was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KV2.1 Antibody (PB9111) 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.

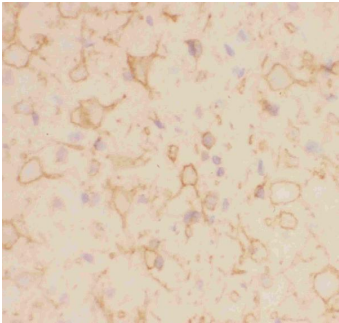
IHC analysis of KV2.1 using anti-KV2.1 antibody (PB9111). KV2.1 was detected in paraffin-embedded section of rat brain tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KV2.1 Antibody (PB9111) overnight at 4°C.



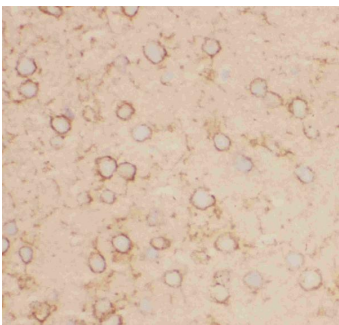
Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of KV2.1 using anti-KV2.1 antibody (PB9111). KV2.1 was detected in paraffin-embedded section of mouse brain tissues. 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-KV2.1 Antibody (PB9111) 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.



IHC analysis of KV2.1 using anti-KV2.1 antibody (PB9111). KV2.1 was detected in frozen section of rat brain tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KV2.1 Antibody (PB9111) 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.



IHC analysis of KV2.1 using anti-KV2.1 antibody (PB9111). KV2.1 was detected in frozen section of mouse brain tissues. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-KV2.1 Antibody (PB9111) 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.

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