

Anti-KCNQ2 Antibody Picoband™

Catalog Number: A01259-1

About KCNQ2

KCNQ2, also called kv7.2, is a potassium channel protein coded for by the gene KCNQ2. It is mapped to 20q13.33. The KCNQ2 gene encodes a voltage-gated potassium channel that is expressed in the brain. Expression of human KCNQ2 in *Xenopus laevis* oocytes led to potassium-selective currents that activated slowly with depolarization. Defects in this gene are a cause of benign familial neonatal convulsions type 1 (BFNC), also known as epilepsy, benign neonatal type 1 (EBN1). At least five transcript variants encoding five different isoforms have been found for this gene.

Overview

Product Name	Anti-KCNQ2 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-KCNQ2 Antibody Picoband™ catalog # A01259-1. Tested in ELISA, 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 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	O43526

Technical Details

Immunogen	E.coli-derived human KCNQ2 recombinant protein (Position: M371-D408).
Predicted Reactive Species	Human
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:

Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat

Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human

Flow Cytometry, 1-3ug/1x10⁶ cells, Human, Rat

Direct ELISA, 0.1-0.5ug/ml, Human

Anti-KCNQ2 Antibody Picoband™ (A01259-1) Images

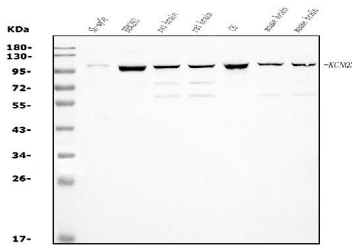


Figure 1. Western blot analysis of KCNQ2 using anti-KCNQ2 antibody (A01259-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human SH-SY5Y whole cell lysates,
Lane 2: human HEK293 whole cell lysates,
Lane 3: rat brain tissue lysates,
Lane 4: rat brain tissue lysates,
Lane 5: rat C6 whole cell lysates,
Lane 6: mouse brain tissue lysates,
Lane 7: 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-KCNQ2 antigen affinity purified polyclonal antibody (Catalog # A01259-1) 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 KCNQ2 at approximately 97 kDa. The expected band size for KCNQ2 is at 97 kDa.

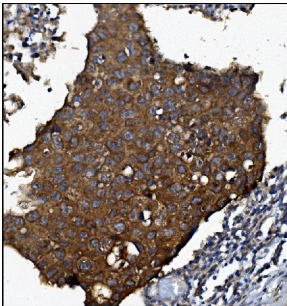


Figure 2. IHC analysis of KCNQ2 using anti-KCNQ2 antibody (A01259-1).
KCNQ2 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-KCNQ2 Antibody (A01259-1) 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.

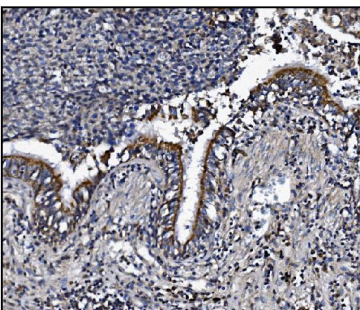


Figure 3. IHC analysis of KCNQ2 using anti-KCNQ2 antibody (A01259-1).
KCNQ2 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-KCNQ2 Antibody (A01259-1) 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.

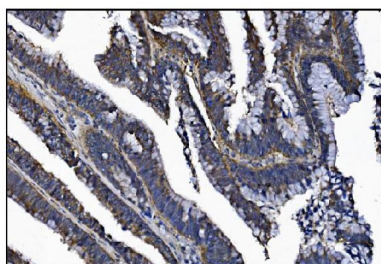


Figure 4. IHC analysis of KCNQ2 using anti-KCNQ2 antibody (A01259-1). KCNQ2 was detected in a paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-KCNQ2 Antibody (A01259-1) 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.

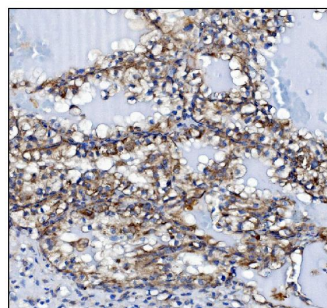


Figure 5. IHC analysis of KCNQ2 using anti-KCNQ2 antibody (A01259-1). KCNQ2 was detected in a paraffin-embedded section of human renal clear cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-KCNQ2 Antibody (A01259-1) 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.

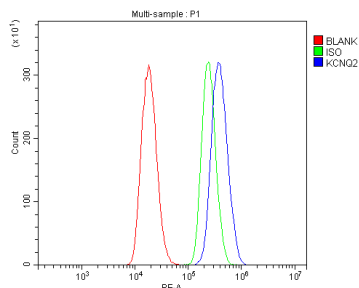


Figure 6. Flow Cytometry analysis of 293T cells using anti-KCNQ2 antibody (A01259-1). Overlay histogram showing 293T cells stained with A01259-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-KCNQ2 Antibody (A01259-1, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

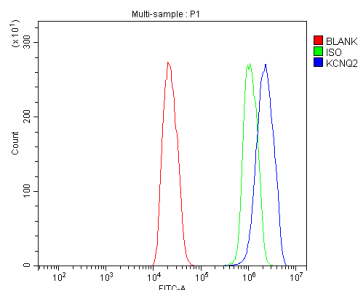


Figure 7. Flow Cytometry analysis of C6 cells using anti-KCNQ2 antibody (A01259-1). Overlay histogram showing C6 cells stained with A01259-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-KCNQ2 Antibody (A01259-1, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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