SANTA CRUZ BIOTECHNOLOGY, INC.

KCNV2 (E-16): sc-168246

BACKGROUND

Voltage-gated potassium channels play an essential role in controlling cellular excitability in the nervous system. They regulate a variety of properties including membrane potential as well as the frequency and structure of action potentials. KCNV2 (potassium channel, subfamily V, member 2), also known as KV11.1, is a 562 amino acid multi-pass membrane protein that belongs to the potassium channel family, the V subfamily and the Kv8.2/KCNV2 sub-subfamily. KCNV2 forms a heteromultimer with KV2.1, KV3.1 and KIR2.1. Considered a potassium channel subunit, KCNV2 modulates channel activity by shifting the threshold and the half-maximal activation to more negative values. KCNV2 is encoded by a gene located on human chromosome 9p24.2 and mouse chromosome 19 C1. Human chromosome 9 consists of about 145 million bases and encodes nearly 900 genes.

REFERENCES

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2. Wulfsen, I., et al. 2000. Expression of mRNA for voltage-dependent and inward-rectifying K channels in GH3/B6 cells and rat pituitary. J. Neuroendocrinol. 12: 263-272.
3. Yamakura, T., et al. 2001. Differential effects of general anesthetics on G protein-coupled inwardly rectifying and other potassium channels. Anesthesiology 95: 144-153.
4. Babbage, A.K., et al. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
5. Czirják, G., et al. 2007. Characterization of the heteromeric potassium channel formed by kv2.1 and the retinal subunit kv8.2 in *Xenopus* oocytes. J. Neurophysiol. 98: 1213-1222.
6. Wang, X., et al. 2008. Kv11.1 channel subunit composition includes MinK and varies developmentally in mouse cardiac muscle. Dev. Dyn. 237: 2430-2437.
7. Jorge, B.S., et al. 2011. Voltage-gated potassium channel KCNV2 (Kv8.2) contributes to epilepsy susceptibility. Proc. Natl. Acad. Sci. USA 108: 5443-5448.

CHROMOSOMAL LOCATION

Genetic locus: Kcnv2 (mouse) mapping to 19 C1.

SOURCE

KCNV2 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of KCNV2 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168246 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KCNV2 (E-16) is recommended for detection of KCNV2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with KCNV1.

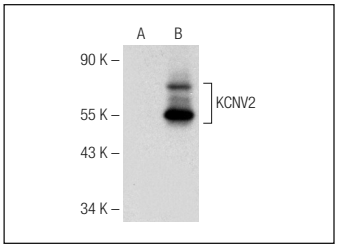
Suitable for use as control antibody for KCNV2 siRNA (m): sc-146376, KCNV2 shRNA Plasmid (m): sc-146376-SH and KCNV2 shRNA (m) Lentiviral Particles: sc-146376-V.

Positive Controls: KCNV2 (m): 293T Lysate: sc-121194.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KCNV2 (E-16): sc-168246. Western blot analysis of KCNV2 expression in non-transfected: sc-117752 (**A**) and mouse KCNV2 transfected: sc-121194 (**B**) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.