

KCNV2 (C-17): sc-168245

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

- Salinas, M., et al. 1997. Modes of regulation of shab K⁺ channel activity by the Kv8.1 subunit. *J. Biol. Chem.* 272: 8774-8780.
- 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.
- Yamakura, T., et al. 2001. Differential effects of general anesthetics on G protein-coupled inwardly rectifying and other potassium channels. *Anesthesiology* 95: 144-153.
- Babbage, A.K., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
- 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.
- Wang, X., et al. 2008. Kv11.1 channel subunit composition includes MinK and varies developmentally in mouse cardiac muscle. *Dev. Dyn.* 237: 2430-2437.
- 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 (human) mapping to 9p24.2; Kcnv2 (mouse) mapping to 19 C1.

SOURCE

KCNV2 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of KCNV2 of human origin.

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-168245 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KCNV2 (C-17) is recommended for detection of KCNV2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (h): sc-92827, KCNV2 siRNA (m): sc-146376, KCNV2 shRNA Plasmid (h): sc-92827-SH, KCNV2 shRNA Plasmid (m): sc-146376-SH, KCNV2 shRNA (h) Lentiviral Particles: sc-92827-V and KCNV2 shRNA (m) Lentiviral Particles: sc-146376-V.

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) 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.

SELECT PRODUCT CITATIONS

- Hölter, P., et al. 2012. The retinal clock drives the expression of Kcnv2, a channel essential for visual function and cone survival. *Invest. Ophthalmol. Vis. Sci.* 53: 6947-6954.

STORAGE

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

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.