

KCNV1 (P-14): sc-87181

BACKGROUND

KCNV1 (potassium voltage-gated channel subfamily V member 1) is also known as KV8.1 (voltage-gated potassium channel subunit KV8.1) or HNKA (neuronal potassium channel α subunit HNKA) and is a 500 amino acid protein that is expressed in brain as a multi-pass membrane protein. KCNV1 has six transmembrane domains and is a potassium channel α -subunit that inhibits the activities of the KV2.1 and KV3.1 channels. KCNV1 is located in the endoplasmic reticulum, but is transferred and inserted into the plasma membrane upon association with KV2.2. The N-terminal regulatory domain of KCNV1 allows it to associate with KV2.2 to form a heteromultimer and become a functional potassium channel. On its own, KCNV1 cannot generate a potassium channel, but as a heteromultimer, it creates a potassium channel with different properties than KV2.2 homomultimers possess. KCNV1 can cause long term changes in electrical signaling which are thought to be important for memory and learning processes.

REFERENCES

- Hugnot, J.P., et al. 1996. KV8.1, a new neuronal potassium channel subunit with specific inhibitory properties towards shab and shaw channels. *EMBO J.* 15: 3322-3331.
- Salinas, M., et al. 1997. Modes of regulation of shab K⁺ channel activity by the KV8.1 subunit. *J. Biol. Chem.* 272: 8774-8780.
- Salinas, M., et al. 1997. New modulatory α subunits for mammalian shab K⁺ channels. *J. Biol. Chem.* 272: 24371-24379.
- Sano, A., et al. 2002. Positional candidate approach for the gene responsible for benign adult familial myoclonic epilepsy. *Epilepsia* 43: 26-31.
- Ottshchytch, N., et al. 2002. Obligatory heterotetramerization of three previously uncharacterized KV channel α -subunits identified in the human genome. *Proc. Natl. Acad. Sci. USA* 99: 7986-7991.

CHROMOSOMAL LOCATION

Genetic locus: KCNV1 (human) mapping to 8q23.2; Kcnv1 (mouse) mapping to 15 B3.3.

SOURCE

KCNV1 (P-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of KCNV1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-87181 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

KCNV1 (P-14) is recommended for detection of KCNV1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

KCNV1 (P-14) is also recommended for detection of KCNV1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KCNV1 siRNA (h): sc-77448, KCNV1 siRNA (m): sc-146375, KCNV1 shRNA Plasmid (h): sc-77448-SH, KCNV1 shRNA Plasmid (m): sc-146375-SH, KCNV1 shRNA (h) Lentiviral Particles: sc-77448-V and KCNV1 shRNA (m) Lentiviral Particles: sc-146375-V.

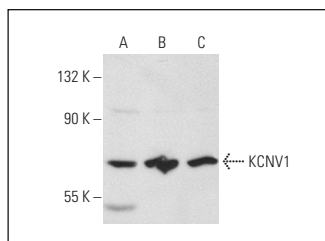
Molecular Weight of KCNV1: 56 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or TE671 cell lysate: sc-2416.

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



KCNV1 (P-14): sc-87181. Western blot analysis of KCNV1 expression in U-87 MG (A), IMR-32 (B) and TE671 (C) 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.