SANTA CRUZ BIOTECHNOLOGY, INC.

KV9.1 (A-16): sc-51115

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Voltage-gated K^+ channels in the plasma membrane control the repolarization and the frequency of action potentials in neurons, muscles and other excitable cells. The KV gene family encodes more than 30 proteins that comprise the subunits of the K^+ channels, and they vary in their gating and permeation properties, subcellular distribution and expression patterns. Functional KV channels assemble as tetramers consisting of pore-forming α subunits (KV), which include the KV1, KV2, KV3, KV4 and KV9 proteins, and accessory or KV-subunits that modify the gating properties of the coexpressed KV subunits. KV9.1 is a K^+ channel subunit that reduces the ion flow and regulates channel activity. It localizes to the cell membrane and is expressed in all tissues tested except in skeletal muscle. It is highly expressed in fetal and adult brain, adult prostate and testis and fetal kidney and lung.

REFERENCES

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2. Veh, R.W., Lichtinghagen, R., Sewing, S., Wunder, F., Grumbach, I.M. and Pongs, O. 1995. Immunohistochemical localization of five members of the KV1 channel subunits: contrasting subcellular locations and neuron-specific co-localizations in rat brain. Eur. J. Neurosci. 7: 2189-2205.
3. Shepard, A.R. and Rae, J.L. 1999. Electrically silent potassium channel subunits from human lens epithelium. Am. J. Physiol. 277: C412-C424.
4. Leicher, T., Bähring, R., Isbrandt, D. and Pongs, O. 1999. Coexpression of the KCNA3B gene product with KV1.5 leads to a novel A-type potassium channel. J. Biol. Chem. 273: 35095-35101.
5. Manganas, L.N. and Trimmer, J.S. 2000. Subunit composition determines KV1 potassium channel surface expression. J. Biol. Chem. 275: 29685-29693.
6. Kerschensteiner, D., Soto, F. and Stocker, M. 2005. Fluorescence measurements reveal stoichiometry of K^+ channels formed by modulatory and delayed rectifier α subunits. Proc. Natl. Acad. Sci. USA 102: 6160-6165.

CHROMOSOMAL LOCATION

Genetic locus: KCNS1 (human) mapping to 20q13.12; Kcns1 (mouse) mapping to 2 H3.

SOURCE

KV9.1 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KV9.1 of human origin.

STORAGE

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

PROTOCOLS

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

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-51115 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KV9.1 (A-16) is recommended for detection of KV9.1 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).

KV9.1 (A-16) is also recommended for detection of KV9.1 in additional species, including bovine.

Suitable for use as control antibody for KV9.1 siRNA (h): sc-60909, KV9.1 siRNA (m): sc-60910, KV9.1 shRNA Plasmid (h): sc-60909-SH, KV9.1 shRNA Plasmid (m): sc-60910-SH, KV9.1 shRNA (h) Lentiviral Particles: sc-60909-V and KV9.1 shRNA (m) Lentiviral Particles: sc-60910-V.

Molecular Weight of KV9.1: 55 kDa.

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.

RESEARCH USE

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