SANTA CRUZ BIOTECHNOLOGY, INC.

KV3.2 (L-14): sc-54394

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. The subunits vary in their gating and permeation properties, subcellular distribution and expression patterns. Functional KV channels assemble as tetramers consisting of pore-forming α subunits, which include the KV1, KV2, KV3, KV4 and KV9 proteins, as well as accessory subunits that modify the gating properties of the coexpressed KV subunits. KV3.2 is a multipass membrane protein that regulates the voltage-dependent K^+ permeability of excitable membranes. The tail of KV3.2 may be influential in the targeting of the channel to specific subcellular compartments and/or the regulation of channel activity.

REFERENCES

1. McCormack, T., Vega-Saenz de Miera, E.C. and Rudy, B. 1990. Molecular cloning of a member of a third class of Shaker-family K^+ channel genes in mammals. Proc. Natl. Acad. Sci. USA 87: 5227-5231.
2. Luneau, C., Wiedmann, R., Smith, J.S. and Williams, J.B. 1991. Shaw-like rat brain potassium channel cDNA's with divergent 3' ends. FEBS Lett. 288: 163-167.
3. Rudy, B., Kentros, C., Weiser, M., Fruhling, D., Serodio, P., Vega-Saenz de Miera, E., Ellisman, M.H., Pollock, J.A. and Baker, H. 1992. Region-specific expression of a K^+ channel gene in brain. Proc. Natl. Acad. Sci. USA 89: 4603-4607.
4. Bobik, M., Ellisman, M.H., Rudy, B. and Martone, M.E. 2004. Potassium channel subunit KV3.2 and the water channel aquaporin-4 are selectively localized to cerebellar pinceau. Brain Res. 1026: 168-178.
5. Yeung, S.Y., Thompson, D., Wang, Z., Fedida, D. and Robertson, B. 2005. Modulation of KV3 subfamily potassium currents by the sea anemone toxin BDS: significance for CNS and biophysical studies. J. Neurosci. 25: 8735-8745.

CHROMOSOMAL LOCATION

Genetic locus: KCNC2 (human) mapping to 12q21.1; Kcnc2 (mouse) mapping to 10 D2.

SOURCE

KV3.2 (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of KV3.2 of rat 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-54394 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KV3.2 (L-14) is recommended for detection of KV3.2 of mouse, rat and human 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).

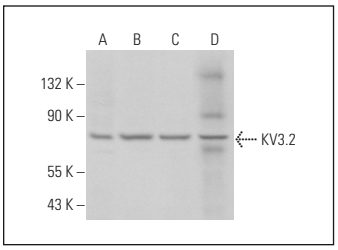
KV3.2 (L-14) is also recommended for detection of KV3.2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KV3.2 siRNA (h): sc-62534, KV3.2 siRNA (m): sc-62535, KV3.2 shRNA Plasmid (h): sc-62534-SH, KV3.2 shRNA Plasmid (m): sc-62535-SH, KV3.2 shRNA (h) Lentiviral Particles: sc-62534-V and KV3.2 shRNA (m) Lentiviral Particles: sc-62535-V.

Molecular Weight of KV3.2: 70 kDa.

Positive Controls: JAR cell lysate: sc-2276, JEG-3 whole cell lysate: sc-364255 or mouse placenta extract: sc-364247.

DATA



KV3.2 (L-14): sc-54394. Western blot analysis of KV3.2 expression in KNRK (**A**), JEG-3 (**B**) and JAR (**C**) whole cell lysates and mouse placenta tissue extract (**D**).

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.