SANTA CRUZ BIOTECHNOLOGY, INC.

KV2.2 (H-43): sc-292489

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. KV2.2 is a multi-pass membrane protein that regulates the voltage-dependent K^+ permeability of excitable membranes. Its tail may be influential in the targeting of the channel to specific subcellular compartments and/or the regulation of channel activity.

REFERENCES

1. Deal, K.K., et al. 1994. The brain KV1.1 potassium channel: *in vitro* and *in vivo* studies on subunit assembly and posttranslational processing. J. Neurosci. 14: 1666-1676.
2. Veh, R.W., et al. 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. Schmalz, F., et al. 1998. Molecular identification of a component of delayed rectifier current in gastrointestinal smooth muscles. Am. J. Physiol. 274: G901-G911.
4. Shepard, A.R. and Rae, J.L. 1999. Electrically silent potassium channel subunits from human lens epithelium. Am. J. Physiol. 277: C412-C424.
5. Leicher, T., et al. 1999. Coexpression of the KCNA3B gene product with KV1.5 leads to a novel A-type potassium channel. J. Biol. Chem. 273: 35095-35101.
6. Blaine, J.T., et al. 2004. Carboxyl tail region of the KV2.2 subunit mediates novel developmental regulation of channel density. J. Neurophysiol. 92: 3446-3454.

CHROMOSOMAL LOCATION

Genetic locus: KCNB2 (human) mapping to 8q13.3; Kcnb2 (mouse) mapping to 1 A3.

SOURCE

KV2.2 (H-43) is a rabbit polyclonal antibody raised against amino acids 717-759 mapping near the C-terminus of KV2.2 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.

STORAGE

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

APPLICATIONS

KV2.2 (H-43) is recommended for detection of KV2.2 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).

KV2.2 (H-43) is also recommended for detection of KV2.2 in additional species, including equine and canine.

Suitable for use as control antibody for KV2.2 siRNA (h): sc-60907, KV2.2 siRNA (m): sc-60908, KV2.2 shRNA Plasmid (h): sc-60907-SH, KV2.2 shRNA Plasmid (m): sc-60908-SH, KV2.2 shRNA (h) Lentiviral Particles: sc-60907-V and KV2.2 shRNA (m) Lentiviral Particles: sc-60908-V.

Molecular Weight (predicted) of KV2.2: 103 kDa.

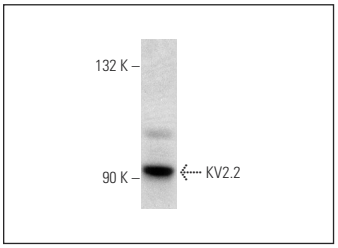
Molecular Weight (observed) of KV2.2: 134 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KV2.2 (H-43): sc-292489. Western blot analysis of KV2.2 expression in IMR-32 whole cell lysate.

RESEARCH USE

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