SANTA CRUZ BIOTECHNOLOGY, INC.

KV2.2 (E-7): sc-376275

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. Leicher, T., et al. 1998. Coexpression of the KCNA3B gene product with KV1.5 leads to a novel A-type potassium channel. J. Biol. Chem. 273: 35095-35101.
5. Shepard, A.R., et al. 1999. Electrically silent potassium channel subunits from human lens epithelium. Am. J. Physiol. 277: C412-C424.

CHROMOSOMAL LOCATION

Genetic locus: KCNB2 (human) mapping to 8q13.3.

SOURCE

KV2.2 (E-7) is a mouse monoclonal 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KV2.2 (E-7) is available conjugated to agarose (sc-376275 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376275 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376275 PE), fluorescein (sc-376275 FITC), Alexa Fluor® 488 (sc-376275 AF488), Alexa Fluor® 546 (sc-376275 AF546), Alexa Fluor® 594 (sc-376275 AF594) or Alexa Fluor® 647 (sc-376275 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376275 AF680) or Alexa Fluor® 790 (sc-376275 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

KV2.2 (E-7) is recommended for detection of KV2.2 of human origin by Western Blotting (starting dilution 1:100, 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).

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

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

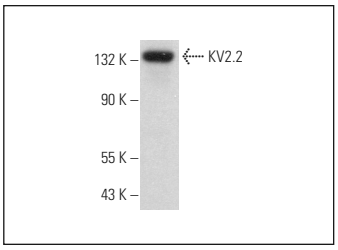
Molecular Weight (observed) of KV2.2: 134 kDa.

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

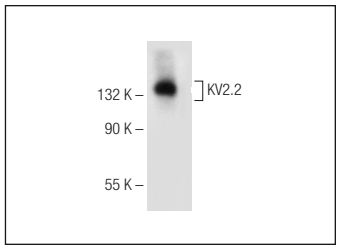
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KV2.2 (E-7): sc-376275. Western blot analysis of KV2.2 expression in IMR-32 whole cell lysate. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



KV2.2 (E-7): sc-376275. Western blot analysis of KV2.2 expression in IMR-32 whole cell lysate.

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 for detailed protocols and support products.