

KV9.3 (D-11): sc-365497

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. KV9.3 is a K⁺ channel subunit that reduces the ion flow and regulates channel activity. It localizes to the cellular membrane and is expressed in most tissues, with highest expression detected in the lung and no detection in peripheral blood lymphocytes.

REFERENCES

- 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.
- 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.
- 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.
- Shepard, A.R. and Rae, J.L. 1999. Electrically silent potassium channel subunits from human lens epithelium. *Am. J. Physiol.* 277: C412-C424.
- Manganas, L.N., et al. 2000. Subunit composition determines KV1 potassium channel surface expression. *J. Biol. Chem.* 275: 29685-29693.
- Kerschensteiner, D., et al. 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: KCNS3 (human) mapping to 2p24.2.

SOURCE

KV9.3 (D-11) is a mouse monoclonal antibody raised against amino acids 411-491 mapping within a C-terminal cytoplasmic domain of KV9.3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain 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

KV9.3 (D-11) is recommended for detection of KV9.3 of human origin by Western Blotting (starting dilution 1:100, 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).

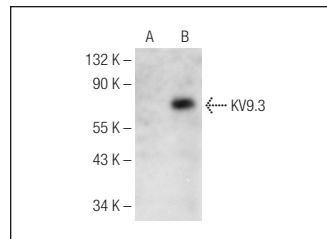
Suitable for use as control antibody for KV9.3 siRNA (h): sc-60913, KV9.3 shRNA Plasmid (h): sc-60913-SH and KV9.3 shRNA (h) Lentiviral Particles: sc-60913-V.

Positive Controls: KV9.3 (h4): 293 Lysate: sc-158673.

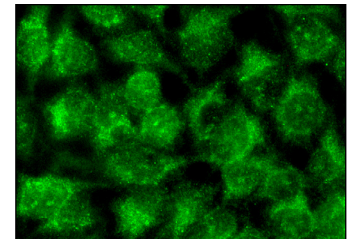
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



KV9.3 (D-11): sc-365497. Western blot analysis of KV9.3 expression in non-transfected: sc-110760 (A) and human KV9.3 transfected: sc-158673 (B) 293 whole cell lysates.



KV9.3 (D-11): sc-365497. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.