

KV3.2 (H-11): sc-514099

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. Its tail may be influential in the targeting of the channel to specific subcellular compartments and/or the regulation of channel activity.

REFERENCES

- McCormack, T., et al. 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.
- Luneau, C., et al. 1991. Shaw-like rat brain potassium channel cDNAs with divergent 3' ends. *FEBS Lett.* 288: 163-167.
- Rudy, B., et al. 1992. Region-specific expression of a K⁺ channel gene in brain. *Proc. Natl. Acad. Sci. USA* 89: 4603-4607.
- Bobik, M., et al. 2004. Potassium channel subunit KV3.2 and the water channel aquaporin-4 are selectively localized to cerebellar pinceau. *Brain Res.* 1026: 168-178.
- Yeung, S.Y., et al. 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 (H-11) is a mouse monoclonal antibody raised against amino acids 168-215 mapping within an internal region of KV3.2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KV3.2 (H-11) is available conjugated to agarose (sc-514099 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514099 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514099 PE), fluorescein (sc-514099 FITC), Alexa Fluor[®] 488 (sc-514099 AF488), Alexa Fluor[®] 546 (sc-514099 AF546), Alexa Fluor[®] 594 (sc-514099 AF594) or Alexa Fluor[®] 647 (sc-514099 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514099 AF680) or Alexa Fluor[®] 790 (sc-514099 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

KV3.2 (H-11) is recommended for detection of KV3.2 of mouse, rat and 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 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.

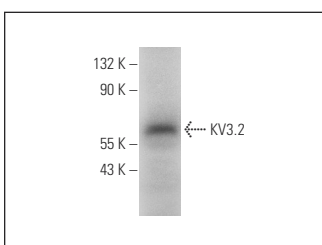
Molecular Weight of KV3.2: 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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



KV3.2 (H-11): sc-514099. Western blot analysis of KV3.2 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

- Torres-Vega, E., et al. 2016. Immunoproteomic studies on paediatric opsoclonus-myoclonus associated with neuroblastoma. *J. Neuroimmunol.* 297: 98-102.

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.