

KChIP2 (C-12): sc-26469

BACKGROUND

In the brain and heart, rapidly inactivating (A-type) voltage-gated potassium (Kv) currents control the excitability of neurons and cardiac myocytes. KChIPs are Kv channel-interacting proteins that bind to the cytoplasmic amino termini of Kv4 α -subunits and are integral components of native Kv4 channel complexes. KChIP family members include KChIP1 expressed in brain, KChIP2 expressed in heart, brain, and lung, and KChIP3 (previously identified as calsemlin) expressed in brain and testis. In rat brain, KChIP1 colocalizes with Kv4.3 in granule cells and KChIP2 colocalizes with Kv4.2 in both neocortical and sub-cortical structures. The KChIPs are members of the recoverin/neuronal calcium sensor-1 subfamily of calcium-binding proteins and show 99% nucleotide homology to DREAM, suggesting that KChIPs may have activity beyond modulation of Kv4 channels.

REFERENCES

1. Nef, P., 1996. Neuron specific calcium sensors (the NCS subfamily). In Celio, M.R., ed., Guidebook to the Calcium-Binding Proteins. New York: Oxford Univ. Press, 94-97.
2. Dixon, J.E., et al. 1996. Role of the Kv4.3 K⁺ channel in ventricular muscle. A molecular correlate for the transient outward current. *Circ. Res.* 79: 659-668.
3. Hoffman, D.A., et al. 1997. K⁺ channel regulation of signal propagation in dendrites of hippocampal pyramidal neurons. *Nature* 387: 869-875.
4. Buxbaum, J.D., et al. 1998. Calsenilin: a calcium-binding protein that interacts with the presenilins and regulates the levels of a presenilin fragment. *Nat. Med.* 4: 1177-1181.
5. An, W.F., et al. 2000. Modulation of A-type potassium channels by a family of calcium sensors. *Nature* 403: 553-556.

CHROMOSOMAL LOCATION

Genetic locus: KCNIP2 (human) mapping to 10q24.32; Kcnp2 (mouse) mapping to 19 C3.

SOURCE

KChIP2 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of KChIP2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-26469 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

KChIP2 (C-12) is recommended for detection of KChIP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and 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).

KChIP2 (C-12) is also recommended for detection of KChIP2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for KChIP2 siRNA (h): sc-42402, KChIP2 siRNA (m): sc-42403, KChIP2 shRNA Plasmid (h): sc-42402-SH, KChIP2 shRNA Plasmid (m): sc-42403-SH, KChIP2 shRNA (h) Lentiviral Particles: sc-42402-V and KChIP2 shRNA (m) Lentiviral Particles: sc-42403-V.

Molecular Weight of KChIP2: 27-36 kDa.

Positive Controls: mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Landsberger, M., et al. 2008. Potential role of antibodies against cardiac Kv channel-interacting protein 2 in dilated cardiomyopathy. *Am. Heart J.* 156: 92-99.
2. Shin, D.M., et al. 2010. Mycobacterial lipoprotein activates autophagy via TLR2/1/CD14 and a functional vitamin D receptor signalling. *Cell. Microbiol.* 12: 1648-1665.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **KChIP2 (9K9): sc-134371**, our highly recommended monoclonal alternative to KChIP2 (C-12).