

# KCNC4 (S-15): sc-104344

## BACKGROUND

KCNC4 (potassium voltage-gated channel, Shaw-related subfamily, member 4), also known as Kv3.4 or KSHIIIC, is a 635 amino acid multi-pass membrane protein that belongs to the Shaw subfamily of potassium channel proteins. Existing as either a homotetramer or as a heterotetramer with other potassium channel proteins, KCNC4 functions to mediate the voltage-dependent potassium ion permeability of excitable membranes, specifically by forming a channel through which potassium ions may pass in an electrochemical gradient-dependent manner. KCNC4, which is thought to influence neuronal excitability, is subject to phosphorylation on serine residues, an event which inhibits the rapid closure of potassium channels. Multiple isoforms of KCNC4 exist due to alternative splicing events.

## REFERENCES

1. Rudy, B., et al. 1991. Cloning of a human cDNA expressing a high voltage-activating, TEA-sensitive, type-A K<sup>+</sup> channel which maps to chromosome 1 band p21. *J. Neurosci. Res.* 29: 401-412.
2. Ghanshani, S., et al. 1992. Genomic organization, nucleotide sequence, and cellular distribution of a Shaw-related potassium channel gene, Kv3.3, and mapping of Kv3.3 and Kv3.4 to human chromosomes 19 and 1. *Genomics* 12: 190-196.
3. Vega-Saenz de Miera, E., et al. 1992. Cloning of ShIII (Shaw-like) cDNAs encoding a novel high-voltage-activating, TEA-sensitive, type-A K<sup>+</sup> channel. *Proc. Biol. Sci.* 248: 9-18.
4. Covarrubias, M., et al. 1994. Elimination of rapid potassium channel inactivation by phosphorylation of the inactivation gate. *Neuron* 13: 1403-1412.

## CHROMOSOMAL LOCATION

Genetic locus: KCNC4 (human) mapping to 1p13.3; Kcnc4 (mouse) mapping to 3 F2.3.

## SOURCE

KCNC4 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of KCNC4 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.

Blocking peptide available for competition studies, sc-104344 P, (100 µg 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

KCNC4 (S-15) is recommended for detection of KCNC4 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).

Suitable for use as control antibody for KCNC4 siRNA (h): sc-88479, KCNC4 siRNA (m): sc-105590, KCNC4 siRNA (r): sc-156044, KCNC4 shRNA Plasmid (h): sc-88479-SH, KCNC4 shRNA Plasmid (m): sc-105590-SH, KCNC4 shRNA Plasmid (r): sc-156044-SH, KCNC4 shRNA (h) Lentiviral Particles: sc-88479-V, KCNC4 shRNA (m) Lentiviral Particles: sc-105590-V and KCNC4 shRNA (r) Lentiviral Particles: sc-156044-V.

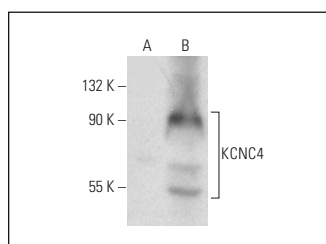
Molecular Weight of KCNC4: 70 kDa.

Positive Controls: KCNC4 (m): 293T Lysate: sc-121191.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



KCNC4 (S-15): sc-104344. Western blot analysis of KCNC4 expression in non-transfected: sc-117752 (A) and mouse KCNC4 transfected: sc-121191 (B) 293T whole cell lysates.

## RESEARCH USE

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