

KCNH4 (N-15): sc-137539

BACKGROUND

Voltage-gated potassium channels play an essential role in controlling cellular excitability in the nervous system. They regulate a variety of properties including membrane potential as well as the frequency and structure of action potentials. KCNH4 (potassium voltage-gated channel, subfamily H (eag-related), member 4), also known as BEC2, ELK1 or voltage-gated potassium channel subunit Kv12.3, is a 1,017 amino acid multi-pass membrane protein that belongs to the potassium channel family and H (Eag) (TC 1.A.1.20) subfamily. Containing one cyclic nucleotide-binding domain, a PAC (PAS-associated C-terminal) domain and a PAS (PER-ARNT-SIM) domain, KCNH4 is a pore-forming α subunit to voltage-gated potassium channels. The gene encoding KCNH4 maps to human chromosome 17q21.2 and mouse chromosome 11 D, and is brain specific.

REFERENCES

- Occhiodoro, T., et al. 1998. Cloning of a human ether-a-go-go potassium channel expressed in myoblasts at the onset of fusion. *FEBS Lett.* 434: 177-182.
- Miyake, A., et al. 1999. New ether-à-go-go K⁺ channel family members localized in human telencephalon. *J. Biol. Chem.* 274: 25018-25025.
- Ju, M. and Wray, D. 2002. Molecular identification and characterisation of the human eag2 potassium channel. *FEBS Lett.* 524: 204-210.
- Zou, A., et al. 2003. Distribution and functional properties of human KCNH8 (Elk1) potassium channels. *Am. J. Physiol., Cell Physiol.* 285: C1356-C1366.
- Ju, M. and Wray, D. 2006. Molecular regions responsible for differences in activation between heag channels. *Biochem. Biophys. Res. Commun.* 342: 1088-1097.

CHROMOSOMAL LOCATION

Genetic locus: KCNH4 (human) mapping to 17q21.2; Kcnh4 (mouse) mapping to 11 D.

SOURCE

KCNH4 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of KCNH4 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-137539 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.

APPLICATIONS

KCNH4 (N-15) is recommended for detection of KCNH4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other KCN family members.

KCNH4 (N-15) is also recommended for detection of KCNH4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KCNH4 siRNA (h): sc-93952, KCNH4 siRNA (m): sc-146364, KCNH4 shRNA Plasmid (h): sc-93952-SH, KCNH4 shRNA Plasmid (m): sc-146364-SH, KCNH4 shRNA (h) Lentiviral Particles: sc-93952-V and KCNH4 shRNA (m) Lentiviral Particles: sc-146364-V.

Molecular Weight of KCNH4: 112 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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