

KCNH4 (P-16): sc-137540

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

1. 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.
2. Miyake, A., et al. 1999. New ether-à-go-go K⁺ channel family members localized in human telencephalon. *J. Biol. Chem.* 274: 25018-25025.
3. Ju, M. and Wray, D. 2002. Molecular identification and characterisation of the human eag2 potassium channel. *FEBS Lett.* 524: 204-210.
4. Zou, A., et al. 2003. Distribution and functional properties of human KCNH8 (Elk1) potassium channels. *Am. J. Physiol., Cell Physiol.* 285: C1356-C1366.
5. 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 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-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-137540 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 (P-16) is recommended for detection of KCNH4 of mouse and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other KCN family members.

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.

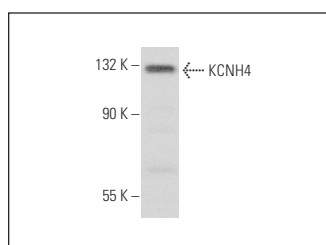
Molecular Weight of KCNH4: 112 kDa.

Positive Controls: mouse brain extract: sc-2253 or mouse cerebellum extract: sc-2403.

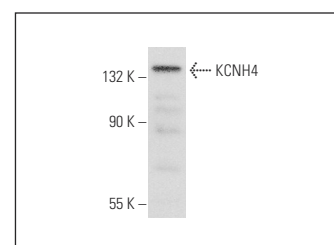
RECOMMENDED SECONDARY REAGENTS

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



KCNH4 (P-16): sc-137540. Western blot analysis of KCNH4 expression in mouse brain tissue extract.



KCNH4 (P-16): sc-137540. Western blot analysis of KCNH4 expression in mouse cerebellum tissue extract.

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.