

HCN3 (N-14): sc-46355

BACKGROUND

Hyperpolarization-activated, cyclic nucleotide-binding channels (HCN) are voltage-gated cation channels that are activated by direct binding of intracellular cyclic nucleotides. The HCN family consists of four members (HCN1-4), each with a core transmembrane segment domain and a C-terminal 120 amino acid cyclic nucleotide-binding domain motif. HCN channels are expressed in the brain, heart, thalamus and testis. The pacemaker properties of HCN channels contribute to spontaneous rhythmic activity in the brain and heart. HCN3 contains a segment characterized by a series of positively charged amino acids at every third position. This region designated S4 is likely to be the voltage sensor of the protein. In the brain, HCN3 and HCN4 exhibit subcortical distribution mainly concentrated in the hypothalamus and thalamus, respectively.

REFERENCES

1. Notomi, T., et al. 2004. Immunohistochemical localization of Ih channel subunits, HCN1-4, in the rat brain. *J. Comp. Neurol.* 471: 241-276.
2. Bajorat, R., et al. 2005. Functional significance of HCN2/3-mediated I(h) in striatal cells at early developmental stages. *J. Neurosci. Res.* 82: 206-213.
3. Stieber, J., et al. 2005. Functional expression of the human HCN3 channel. *J. Biol. Chem.* 280: 34635-34643.
4. Yamada, R., et al. 2005. Hyperpolarization-activated cyclic nucleotide-gated cation channels regulate auditory coincidence detection in nucleus laminaris of the chick. *J. Neurosci.* 25: 8867-8877.
5. Varghese, A., et al. 2006. Endogenous channels in HEK cells and potential roles in HCN ionic current measurements. *Prog. Biophys. Mol. Biol.* 90: 26-37.
6. SWISS-PROT/TrEMBL (Q9P1Z3). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: HCN3 (human) mapping to 1q22; Hcn3 (mouse) mapping to 3 F2.

SOURCE

HCN3 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of HCN3 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-46355 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.

APPLICATIONS

HCN3 (N-14) is recommended for detection of HCN3 of 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).

Suitable for use as control antibody for HCN3 siRNA (h): sc-45651, HCN3 shRNA Plasmid (h): sc-45651-SH and HCN3 shRNA (h) Lentiviral Particles: sc-45651-V.

Molecular Weight of HCN3: 97 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.



Try **HCN3 (TLL6C5): sc-58621** or **HCN3 (B-12): sc-365451**, our highly recommended monoclonal alternatives to HCN3 (N-14).