SANTA CRUZ BIOTECHNOLOGY, INC.

HCN2 (N-13): sc-19708

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 carboxy-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. The genes encoding human HCN1 and HCN2 map to chromosomes 5 and 19p13.3, respectively. The genes encoding HCN3 and HCN4 map to chromosomes 1q21.3 and 15q24-q25, respectively.

REFERENCES

1. Ludwig, A., et al. 1999. Two pacemaker channels from human heart with profoundly different activation kinetics. EMBO J. 18: 2323-2329.
2. Vaccari, T., et al. 1999. The human gene coding for HCN2, a pacemaker channel of the heart. Biochim. Biophys. Acta 1446: 419-425.
3. Wainger, B.J., et al. 2001. Molecular mechanism of cAMP modulation of HCN pacemaker channels. Nature 411: 805-810.
4. Stieber, J., et al. 2003. Molecular basis for the different activation kinetics of the pacemaker channels HCN2 and HCN4. J. Biol. Chem 278: 33672-33680.
5. Chan, C.S., et al. 2004. HCN2 and HCN1 channels govern the regularity of autonomous pacemaking and synaptic resetting in globus pallidus neurons. J. Neurosci. 24: 9921-9932.
6. Qu, J., et al. 2004. MiRP1 modulates HCN2 channel expression and gating in cardiac myocytes. J. Biol. Chem. 279: 43497-43502.
7. LocusLink Report (LocusID: 609). http://www.ncbi.nlm.nih.gov/LocusLink/

SOURCE

HCN2 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HCN2 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-19708 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 or our catalog for detailed protocols and support products.

APPLICATIONS

HCN2 (N-13) is recommended for detection of HCN2 of 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 HCN2 siRNA (h): sc-35537.

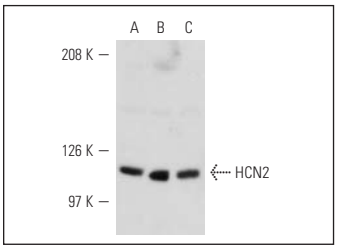
Molecular Weight of HCN2: 110 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, IMR-32 cell lysate: sc-2409 or H4 cell lysate: sc-2408.

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



HCN2 (N-13): sc-19708. Western blot analysis of HCN2 expression in SK-N-SH (**A**), IMR-32 (**B**) and H4 (**C**) whole cell lysates.

RESEARCH USE

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