

HCN3 (h): 293T Lysate: sc-114783

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.

PRODUCT

HCN3 (h): 293T Lysate represents a lysate of human HCN3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

HCN3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive HCN3 antibodies. Recommended use: 10–20 µl per lane.

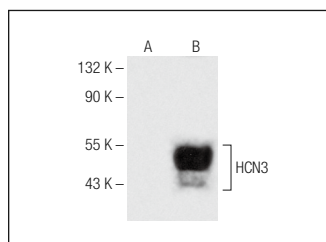
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

HCN3 (B-12): sc-365451 is recommended as a positive control antibody for Western Blot analysis of enhanced human HCN3 expression in HCN3 transfected 293T cells (starting dilution 1:100, dilution range 1:100–1:1,000).

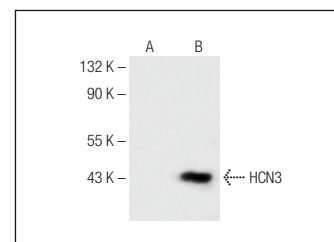
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000–1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



HCN3 (B-12): sc-365451. Western blot analysis of HCN3 expression in non-transfected: sc-117752 (A) and human HCN3 transfected: sc-114783 (B) 293T whole cell lysates.



HCN3 (E-5): sc-365452. Western blot analysis of HCN3 expression in non-transfected: sc-117752 (A) and human HCN3 transfected: sc-114783 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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