

Product datasheet for **TA328692**

HCN2 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)EEAGPAGEPRGSQAS, corresponding to amino acid residues 147-161 of human HCN2. Intracellular, N-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	hyperpolarization activated cyclic nucleotide gated potassium channel 2
Database Link:	NP_001185 Entrez Gene 15166 Mouse Entrez Gene 114244 Rat Entrez Gene 610 Human Q9UL51



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Background:

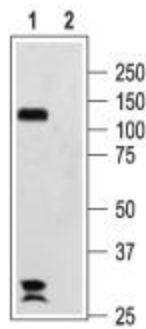
Hyperpolarization-activated cation currents (IHC) appear in the heart and the brain having crucial role in controlling electrical pacemaker activity, contributing to biological processes such as heartbeat, sleep-wake cycle and synaptic plasticity. The IHC currents are generated by the Hyperpolarization-activated cyclic nucleotide-gated channel family (HCN), which comprises of four homologous members, named HCN1-4. Each HCN subunit consist of six transmembrane domains (TM), a pore region between TM5-TM6 and a binding domain to cyclic nucleotides (CNBD) in the cytoplasmic C-terminus. The HCN subunits can form functionally homomers and can also co-assemble into functionally heteromers. The channels are closely related to each other and share homology of about 60%. However, they are diverging from each other in their cytoplasmic N- and the C-terminus. The channels HCN1-4 mainly differ from each other with regard to their speed of activation and the extent by which they are modulated by cAMP. HCN1 is the fastest channel, followed by HCN2, HCN3 and HCN4. HCN2 is the most abundant neuronal channel and is found almost ubiquitously in the brain.

Synonyms:

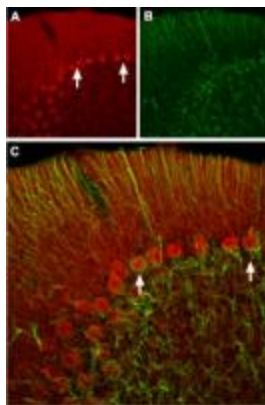
BCNG-2; BCNG2; HAC-1

Protein Families:

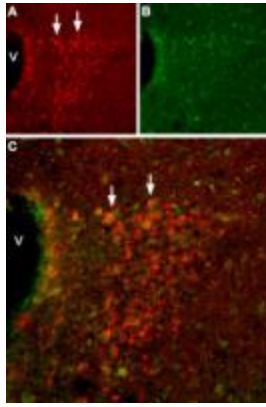
Druggable Genome, Ion Channels: Cyclic nucleotide gated, Transmembrane

Product images:


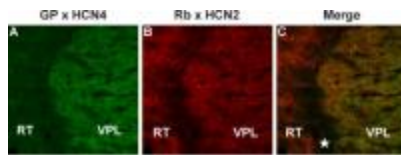
Western blot analysis of rat brain membranes: 1. Anti-HCN2 antibody, (1:200). 2. Anti-HCN2 antibody, preincubated with the control peptide antigen.



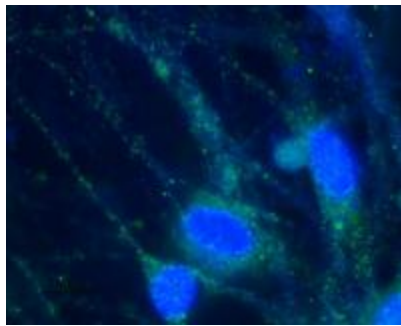
Expression of HCN2 in rat cerebellum. Immunohistochemical staining of rat cerebellum frozen sections using Anti-HCN2 antibody. A. HCN2 (red) appears in Purkinje cells (arrows). B. Staining of astrocytes with mouse anti-glial fibrillary acidic protein (GFAP, green demonstrates the restriction of HCN2 to neuronal cell bodies. C. Confocal merge of HCN2 and GFAP images demonstrates the respective localization of these proteins.



Expression of HCN2 in mouse hypothalamus. Immunohistochemical staining of mouse hypothalamus using Anti-HCN2 antibody. A. HCN2 (red) appears in cells of the paraventricular nucleus (PVN, arrows). B. Staining of paraventricular nerve cells with mouse anti-calcium binding protein (CBD28k, green). C. Confocal merge of HCN2 and CBD28k demonstrates some co-localization. V = Third ventricle.



IHC staining of mouse thalamus frozen section using guinea pig Anti-HCN4 antibody and rabbit Anti-HCN2 antibody. A. Staining of HCN4 (green) appears in the ventral posterior thalamic nucleus (VPL). B. In the same section as in A, staining of HCN2 (red) appears in the ventral posterior thalamic nucleus (VPL) and also in the reticular thalamic nucleus (RT). The area between these thalamic nuclei (star) is white matter and neither protein is expressed in that region. C. Merged images of A and B.



Expression of HCN2 in rat DRG primary culture. Immunocytochemical staining of paraformaldehyde-fixed and permeabilized rat dorsal root ganglion (DRG) primary culture using Anti-HCN2 antibody, (1:100), (green). Cells were stained with Anti-HCN2 antibody followed by goat anti-rabbit-AlexaFluor-488 secondary antibody. Nuclear staining of cells using the cell-permeable DNA dye Hoechst 33342 (blue).