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# Product datasheet for TA328955

## Hcn1 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)KPNSASNSRDDGNSVYPSK, corresponding to amino acid residues 6-24 of rat HCN1 . 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% NaN3. |
| **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 1 |
| **Database Link:** | NP_445827<br>Entrez Gene 15165 MouseEntrez Gene 348980 HumanEntrez Gene 84390 Rat<br>Q9JKB0 |

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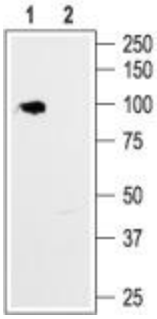
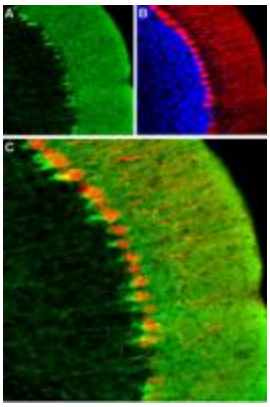
**Background:** Hyperpolarization-activated cation currents (Ih) appear in the heart and the brain and have a crucial role in controlling electrical pacemaker activity, contributing to biological processes such as heartbeat, sleep-wake cycle and synaptic plasticity. The Ih currents are generated by the Hyperpolarization-activated cyclic nucleotide-gated channel family (HCN), which is comprised of four homologous members, HCN1-4. Each HCN subunit consists of six transmembrane domains (TM), a pore region between TM5-TM6 and a binding domain for cyclic nucleotides (CNBD) in the cytoplasmic C-terminus. The HCN subunits can form functional homomers and can also co-assemble into functionally heteromers. The channels are closely related to each other and share a homology of about 60%. However, their similarity decreases in the cytoplasmic N- and C-termini. The channels HCN1-4 mainly differ from each other in their speed of activation and the extent to which they are modulated by cAMP. HCN1, weakly affected by cAMP, is the fastest channel, followed by HCN2, HCN3 and HCN4. HCN1 is extensively expressed in the brain, in specific areas like the neocortex, hippocampus, cerebellum and superior colliculus.

**Synonyms:** BCNG-1; BCNG1; HAC-2

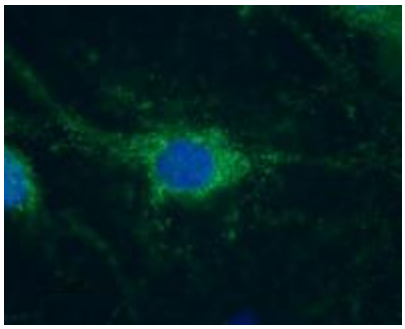
## Product images:




Western blot analysis of rat brain membrane: 1. Anti-HCN1 antibody, (1:200). 2. Anti-HCN1 antibody, preincubated with the control peptide antigen.



Expression of HCN1 in mouse cerebellum. Immunohistochemical staining mouse cerebellum using Anti-HCN1 antibody. A. HCN1 (green) appears in the cerebellar pinceau. B. Calcium binding calbindinD28-K (red), a marker of Purkinje neurons, is stained in the same section. C. Merge of the images demonstrates the position of the HCN1-positive pinceau structures at the axon initial segment of Purkinje neurons.



Expression of HCN1 in rat DRG primary culture. Immunocytochemical staining of paraformaldehyde-fixed and permeabilized rat DRG primary culture. Cells were stained with Anti-HCN1 antibody, (1:300), followed by goat anti-rabbit-AlexaFluor-488 secondary antibody (green). Nuclear staining of cells using the cell-permeable dye Hoechst 33342 (blue).