Product Datasheet

HCN1 Antibody (Biotin) (orb148229)

Catalog Number	orb148229
Category	Antibodies
Description	Mouse monoclonal to HCN1 (Biotin). Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient. They are present in the membranes that surround all biological cells because their main function is to regulate the flow of ions across this membrane. Whereas some ion channels permit the passage of ions based on charge, others conduct based on a ionic species, such as sodium or potassium. Furthermore, in some ion channels, the passage is governed by a gate which is controlled by chemical or electrical signals, temperature, or mechanical forces. There are a few main classifications of gated ion channels. There are voltage- gated ion channels, ligand- gated, other gating systems and finally those that are classified differently, having more exotic characteristics. The first are voltage- gated ion channels which open and close in response to membrane potential. These are then separated into sodium, calcium, potassium, proton, transient receptor, and cyclic nucleotide-gated channels; each of which is responsible for a unique role. Ligand-gated ion channels are also known as ionotropic receptors, and they open in response to specific ligand molecules binding to the extracellular domain of the receptor protein. The other gated classifications include activation and inactivation by second messengers, inward-rectifier potassium channels, calcium-activated potassium channels, two-pore-domain potassium channels, light-gated channels, mechano-sensitive ion channels and cyclic nucleotide-gated channels. Finally, the other classifications are based on less normal characteristics such as two-pore channels, and transient receptor potential channels. Specifically, hyperpolarization-activated cation channels of the HCN gene family, such as HCN1, play a crucial role in the regulatons of cell excitability. Importantly, they contribute to spontaneous rhythmic activity in both the heart and brain.
Target	HCN1

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Clonality	Recombinant
Species/Host	Mouse
Isotype	IgG1
Conjugation	Biotin
Reactivity	Human, Mouse, Rat
Concentration	1 mg/ml
Buffer/Preservatives	136.36mM Ethanolamine, 133.23 mM Chlorides, 9.55mM Phosphates, 9.55mM Sodium Bicarbonate
Purification	Protein G Purified
Immunogen	Fusion protein amino acids 778-910 (C terminus) of rat HCN1 (Q9JKB0 sequence version 1)
UniProt ID	**Q9JKB0**
MW	100kDa
Tested applications	AM, IHC, IP, WB
Dilution range	WB (1:1000), IHC (1:1000), ICC/IF (1:100)
Application notes	1 µg/ml of SMC-304 was sufficient for detection of HCN1 in 10 µg of rat brain lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.
Specificity	Detects ~100kDa. No cross-reactivity against HCN2.
Antibody Type	Recombinant Antibody
Clone Number	S70
Storage	Conjugated antibodies should be stored according to the product label
Note	For research use only

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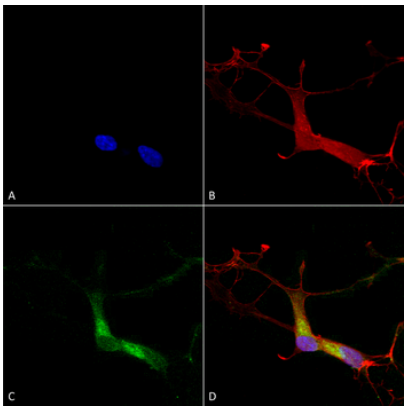
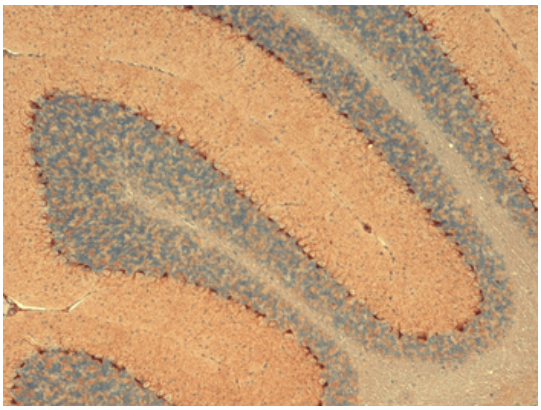
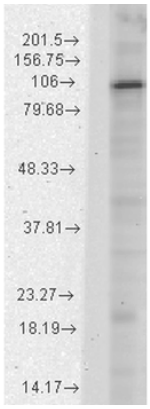
Entrez	**84390**
NCBI	**NP_445827.1**
Expiration Date	12 months from date of receipt.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Tissue: Neuroblastoma cells (SH-SY5Y). Species: Human. Fixation: 4% PFA for 15 min. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:100 for overnight at 4°C with slow rocking. Secondary Antibody: AlexaFluor 488 at 1:1000 for 1 hour at RT. Counterstain: Phalloidin-iFluor 647 (red) F-Actin stain; Hoechst (blue) nuclear stain at 1:800, 1.6mM for 20 min at RT. (A) Hoechst (blue) nuclear stain. (B) Phalloidin-iFluor 647 (red) F-Actin stain. (C) HCN1 Antibody (D) Composite.



Immunohistochemistry analysis using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Tissue: Cerebellum. Species: Mouse. Fixation: 10% Formalin Solution for 12-24 hours at RT. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: HRP/DAB Detection System: Biotinylated Goat Anti-Mouse, Streptavidin Peroxidase, DAB Chromogen (brown) for 30 minutes at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 250-500 µl for 5 minutes at RT. Localization: Cytoplasmic staining of Purkinje cells.



Western Blot analysis of Rat brain membrane lysate showing detection of HCN1 protein using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

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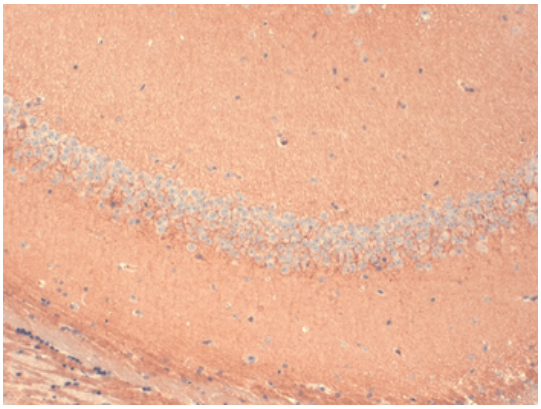
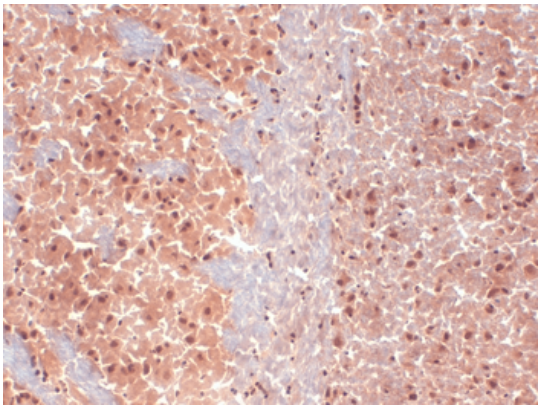
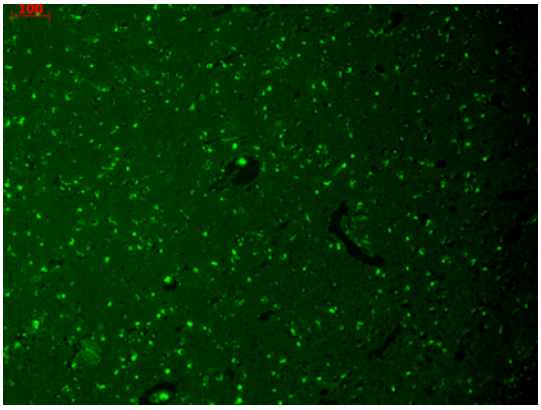


Immunohistochemistry analysis using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Tissue: Frozen brain section. Species: Mouse. Fixation: 10% Formalin Solution for 12-24 hours at RT. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: HRP/DAB Detection System: Biotinylated Goat Anti-Mouse, Streptavidin Peroxidase, DAB Chromogen (brown) for 30 minutes at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 250-500 µl for 5 minutes at RT. Localization: Neurons.



Immunohistochemistry analysis using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Tissue: Frozen brain section. Species: Mouse. Fixation: 10% Formalin Solution for 12-24 hours at RT. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: HRP/DAB Detection System: Biotinylated Goat Anti-Mouse, Streptavidin Peroxidase, DAB Chromogen (brown) for 30 minutes at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 250-500 µl for 5 minutes at RT.



Immunohistochemistry analysis using Mouse Anti-HCN1 Monoclonal Antibody, Clone S70. Tissue: hippocampus. Species: Human. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-HCN1 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.

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