Product Datasheet

HCN2 Antibody (APC) (orb148245)

Catalog Number	orb148245
Category	Antibodies
Description	Mouse monoclonal to HCN2 (APC). Hyperpolarization-activated cyclic nucleotide-gated ion channel 2 (HCN2) is an integral membrane protein that helps establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient. Ion channels 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 contribute to spontaneous rhythmic activity in both the heart and brain.
Target	HCN2

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Clonality	Recombinant
Species/Host	Mouse
Isotype	IgG1
Conjugation	APC
Reactivity	Mouse, Rat
Concentration	1 mg/ml
Buffer/Preservatives	95.46mM Phosphate, 2.48mM MES and 2mM EDTA
Purification	Protein G Purified
Immunogen	Fusion protein amino acids 761-863 (cytoplasmic C-terminus) of rat HCN2
UniProt ID	**Q9JKA9**
MW	95kDa
Tested applications	AM, ICC, IF, IHC, IP, WB
Dilution range	WB (1:1000), IHC (1:1000), ICC/IF (1:100)
Application notes	1 µg/ml of SMC-305 was sufficient for detection of HCN2 in 10 µg of rat brain lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.
Specificity	Detects ~95kDa. No cross-reactivity against HCN1.
Antibody Type	Recombinant Antibody
Clone Number	S71
Storage	Conjugated antibodies should be stored according to the product label
Note	For research use only
Entrez	**114244**

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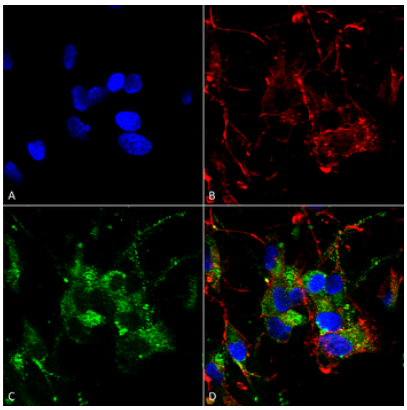
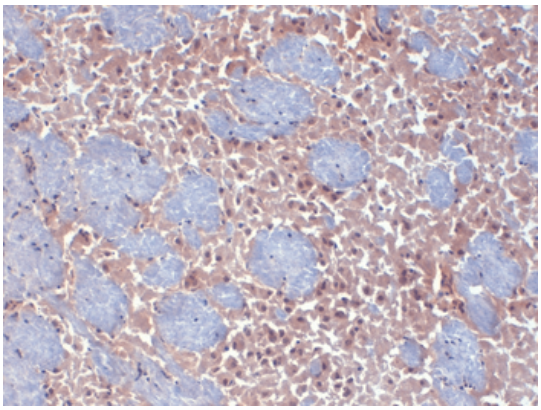
NCBI NP_446136.1

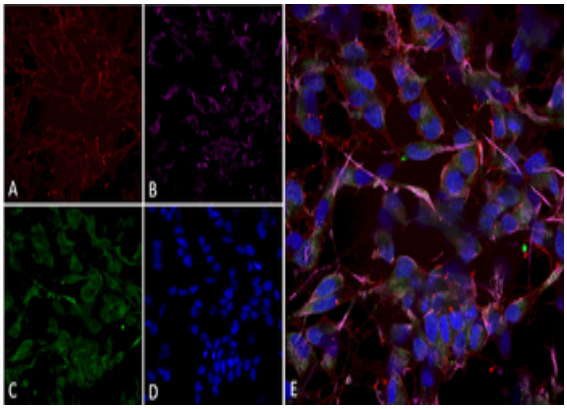
Expiration Date 12 months from date of receipt.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71. Tissue: Neuroblastoma cells (SH-SY5Y). Species: Human. Fixation: 4% PFA for 15 min. Primary Antibody: Mouse Anti-HCN2 Monoclonal Antibody at 1:50 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) HCN2 Antibody (D) Composite.



Immunohistochemistry analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71. Tissue: frozen brain section. Species: mouse. Fixation: 10% Formalin Solution for 12-24 hours at RT. Primary Antibody: Mouse Anti-HCN2 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.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71-37. Tissue: Differentiated SH-SY5Y. Species: Human. Primary Antibody: Mouse Anti-HCN2 Monoclonal Antibody at 1:100. Secondary Antibody: AlexaFluor 488. Counterstain: phalloidin (Alexa 647, red), beta tubulin (Anti-beta III Tubulin Ab, Alexa 555, magenta) Hoechst (blue). (A) Phalloidin (B) Anti-beta III Tubulin Ab. (C) HCN2 Antibody. (D) Hoechst (E) Composite.

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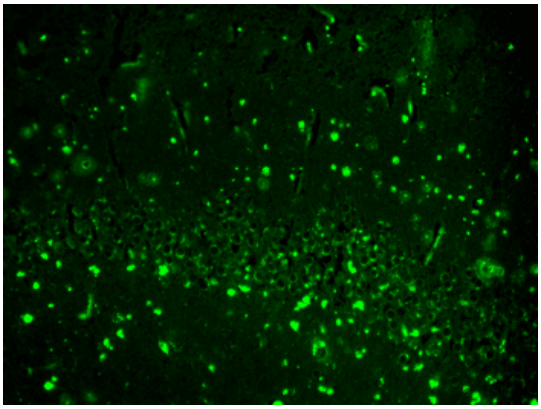
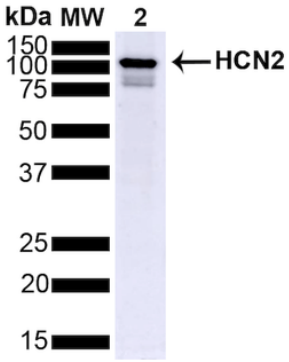
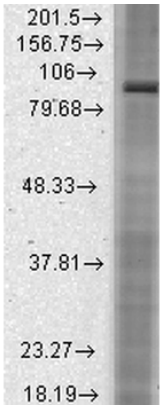


Immunohistochemistry analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71. Tissue: hippocampus. Species: Human. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-HCN2 Monoclonal Antibody at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



Western Blot analysis of Mouse Brain showing detection of ~95 kDa HCN2 protein using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71. Lane 1: MW Ladder. Lane 2: Mouse Brain (15 ug). Load: 15 ug. Block: 5% Skim Milk powder in TBST. Primary Antibody: Mouse Anti-HCN2 Monoclonal Antibody at 1:1000 for 2 hours at RT with shaking. Secondary Antibody: Goat anti-mouse IgG:HRP at 1:4000 for 1 hour at RT with shaking. Color Development: Chemiluminescent for HRP (Moss) for 5 min in RT. Predicted/Observed Size: ~95 kDa.



Western Blot analysis of Rat brain membrane lysate showing detection of HCN2 protein using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71. Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-HCN2 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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