# Mouse anti-Mouse, Rat HCN2 Monoclonal Antibody | anti-Hcn2 antibody

HCN2 Antibody: ATTO 594

| CATALOG # | HOST | REACTIVITY | APPLICATIONS |
|---|---|---|---|
| **AAA102925** | **Mouse** | **Mouse, Rat** | **Immunofluorescence, Immunohistochemistry, Immunoprecipitation, Western Blot** |

## PRODUCT SYNONYMS

HCN2; Monoclonal Antibody; HCN2 Antibody: ATTO 594; BCNG2; HAC1; brain cyclic nucleotide gated channel 2; Potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel; anti-Hcn2 antibody

## PRODUCT SPECIFICATIONS

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| **Host** | Mouse |
| **Reactivity** | Mouse, Rat |
| **Clonality** | Monoclonal |
| **Isotype** | IgG1 |
| **Clone Number** | S71-37 |
| **Form/Format** | Protein G Purified |
| **Concentration** | 1mg/mL (varies by lot) |
| **Sequence Length** | 863 |
| **Applicable Applications for anti-Hcn2 antibody** | IF (Immunofluorescence), IHC (Immunohistochemistry), IP (Immunoprecipitation), WB (Western Blot) |
| **Conjugate** | ATTO 594 |
| **Storage Buffer** | PBS pH7.4, 50% glycerol, 0.09% sodium azide |
| **Preparation and Storage** | -20 degree C |

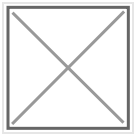
## IMAGES



**IHC (Immunohistochemisry)**
Immunohistochemistry analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71-37. 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.



**WB (Western Blot)**
Western Blot analysis of Rat brain membrane lysate showing detection of HCN2 protein using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71-37. Load: 15 ug. 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.



**IHC (Immunohistochemistry)**
Immunohistochemistry analysis using Mouse Anti-HCN2 Monoclonal Antibody, Clone S71-37. 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 ul for 5 minutes at RT.

## ADDITIONAL INFORMATION

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| **Related Product Information for anti-Hcn2 antibody** | **Background Info:** Detects ~95kDa. No cross-reactivity against HCN1<br><br>**Scientific Background:** 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 (1). 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 (2). Specifically, hyperpolarization-activated cation channels of the HCN gene family contribute to spontaneous rhythmic activity in both the heart and brain (3). |
| **Product Categories/Family for anti-Hcn2 antibody** | Ion Channels; Neuroscience |
| **References** | 1. Hille B. (2001) Ion Channels of Excitable Membranes, 3rd Ed., Sinauer Associated Inc.:Sunderland, MA USA. 2. www.iochannels.org 3. Zong X., et al. (2005) J Biol Chem. 280(40): 34224-34232 |

## NCBI AND UNIPROT INFORMATION

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| **NCBI GI #** | 50878267 |
| **NCBI GeneID** | 114244 |
| **NCBI Accession #** | NP_446136.1 |
| **NCBI GenBank Nucleotide #** | NM_053684.1 |
| **UniProt Accession #** | Q9JKA9; Q6BCT5; Q9QZW6 |
| **Molecular Weight** | 94,920 Da |
| **NCBI Official Full Name** | potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 2 |
| **NCBI Official Synonym Full Names** | hyperpolarization activated cyclic nucleotide-gated potassium channel 2 |
| **NCBI Official Symbol** | Hcn2 |
| **NCBI Protein Information** | potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 2 |
| **UniProt Protein Name** | Potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 2 |

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| **UniProt Gene Name** | **Hcn2** |
| **UniProt Entry Name** | HCN2_RAT |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/hcn2-antibody-clone-s71-37-immunofluorescence-immunohistochemistry-immunoprecipitation-western-blot-elisa/102925