

HCN2 (D1C6I) Rabbit mAb

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Applications: W, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 120	Source/Isotype: Rabbit IgG	UniProt ID: #Q9UL51	Entrez-Gene Id: 610
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

HCN2 (D1C6I) Rabbit mAb recognizes endogenous levels of total HCN2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala751 of human HCN2 protein.

Background

The voltage-activated ion channel superfamily includes both cyclic nucleotide-gated (CNG) channels and hyperpolarization-activated cyclic nucleotide-modulated (HCN) channels (1,2). The direct binding of the cyclic nucleotides cAMP and cGMP promotes the gating of these channels, from the closed to an open state. Research studies demonstrate that HCN channels are involved in repetitive firing, resting membrane potential, and dendritic integration in neurons (1,3). HCN proteins are found in homotetramers and heterotetramers composed of HCN1 and HCN2 subunits (4). Tetramerization of HCN proteins results from cAMP binding to the channel, which triggers the release of the tonic inhibition exerted by the cytoplasmic cyclic nucleotide binding domain on the channel pore (5). HCN channels expressed in dorsal root ganglia neurons may play a role in acute inflammatory pain (6). Cardiac HCN channels ensure electrical rhythmicity in cardiomyocytes (7).

Background References

1. Craven, K.B. and Zagotta, W.N. (2006) *Annu Rev Physiol* 68, 375-401.
2. Jan, L.Y. and Jan, Y.N. (1990) *Nature* 345, 672.
3. Nolan, M.F. et al. (2003) *Cell* 115, 551-64.
4. Ulens, C. and Tytgat, J. (2001) *J Biol Chem* 276, 6069-72.
5. Lolicato, M. et al. (2011) *J Biol Chem* 286, 44811-20.
6. Acosta, C. et al. (2012) *PLoS One* 7, e50442.
7. Biel, M. et al. (2009) *Physiol Rev* 89, 847-85.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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