

HCN4 Rabbit pAb

Catalog # AP97206

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9Y3Q4
Other Accession	Q9Y3Q4
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	129042
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human HCN4
Epitope Specificity	501-600/1203
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the potassium channel HCN family. Contains 1 cyclic nucleotide-binding domain.
SUBUNIT	The potassium channel is probably composed of a homo- or heterotetrameric complex of pore-forming subunits.
DISEASE	Defects in HCN4 are a cause of sick sinus syndrome type 2 (SSS2) [MIM:163800]; also known as atrial fibrillation with bradyarrhythmia or familial sinus bradycardia. The term 'sick sinus syndrome' encompasses a variety of conditions caused by sinus node dysfunction. The most common clinical manifestations are syncope, presyncope, dizziness, and fatigue. Electrocardiogram typically shows sinus bradycardia, sinus arrest, and/or sinoatrial block. Episodes of atrial tachycardias coexisting with sinus bradycardia ('tachycardia-bradycardia syndrome') are also common in this disorder. SSS occurs most often in the elderly associated with underlying heart disease or previous cardiac surgery, but can also occur in the fetus, infant, or child without heart disease or other contributing factors, in which case it is considered to be a congenital disorder. Defects in HCN4 are the cause of Brugada syndrome type 8 (BRGDA8) [MIM:613123]. A tachyarrhythmia characterized by right bundle branch block and ST segment elevation on an electrocardiogram (ECG). It can cause the ventricles to beat so fast that the blood is prevented from circulating efficiently in the body. When this situation occurs (called ventricular fibrillation), the individual will faint and may die in a few minutes if the heart is not reset
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	HCN4 is a member of the family of hyperpolarization activated and cyclic nucleotide gated (HCN) channels. HCN currents have been linked to pacemaker activity in the heart and brain, resting potential control, as well as neuronal plasticity. It has been shown that HCN4 channels function as receptors for sour taste, and are associated with pacemaker potential generation in the sinoatrial node.

Additional Information

Gene ID	10021
Other Names	BRGDA8; EIG18; SSS2; Bcng3; Hcn3; HCN4_HUMAN; HCN4; HCN4_MOUSE; Brain cyclic nucleotide-gated channel 3 (BCNG-3); HCN4_RAT; hyperpolarization activated cyclic nucleotide gated potassium channel 4; hyperpolarization activated cyclic nucleotide-gated potassium channel 4
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug /Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	HCN4 (HGNC:16882)
Function	Hyperpolarization-activated ion channel that are permeable to Na(+) and K(+) ions with very slow activation and inactivation (PubMed: 10228147 , PubMed: 10430953 , PubMed: 20829353). Exhibits higher selectivity for K(+) over Na(+) ions (PubMed: 10228147). Contributes to the native pacemaker currents in heart (If) that regulate the rhythm of heart beat (Probable) (PubMed: 10228147 , PubMed: 16407510 , PubMed: 19165230). Contributes to the native pacemaker currents in neurons (Ih) (Probable). May mediate responses to sour stimuli (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein {ECO:0000269 Ref.10}
Tissue Location	Highly expressed in thalamus, testis and in heart, both in ventricle and atrium. Detected at much lower levels in amygdala, substantia nigra, cerebellum and hippocampus

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