KCNQ1 Rabbit pAb

CatalogNo: YN1086

Key Features

Host Species	Reactivity	Applications
• Rabbit	• Human,Rat,Mouse,	• WB,ELISA

MW	Isotype
• 74kD (Observed)	• IgG

Recommended Dilution Ratios

WB 1:500-2000
ELISA 1:5000-20000

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol,0.5% BSA and 0.02% sodium azide.

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	Synthesized peptide derived from human protein . at AA range: 350-430
Specificity	KCNQ1 Polyclonal Antibody detects endogenous levels of protein.

Target Information

Gene name	KCNQ1 KCNA8 KCNA9 KVLQT1

Protein Name Potassium voltage-gated channel subfamily KQT member 1 (IKs producing slow voltage-gated potassium channel subunit alpha KvLQT1) (KQT-like 1) (Voltage-gated potassium channel subunit Kv7.1)

Organism	Gene ID	UniProt ID
Human	3784;	P51787;
Mouse		P97414;
Rat		Q9Z0N7;

Cellular Localization Cell membrane ; Multi-pass membrane protein . Cytoplasmic vesicle membrane . Early endosome . Membrane raft . Endoplasmic reticulum . Basolateral cell membrane . Colocalized with KCNE3 at the plasma membrane (PubMed:10646604). Upon 17beta-oestradiol treatment, colocalizes with RAB5A at early endosome (PubMed:23529131). Heterotetramer with KCNQ5 is highly retained at the endoplasmic reticulum and is localized outside of lipid raft microdomains (PubMed:24855057). During the early stages of epithelial cell polarization induced by the calcium switch it removed from plasma membrane to the endoplasmic reticulum where it retained and it is redistributed to the basolateral cell surface in a PI3K-dependent manner at a later stage (PubMed:21228319). .

Tissue specificity Abundantly expressed in heart, pancreas, prostate, kidney, small intestine and peripheral blood leukocytes. Less abundant in placenta, lung, spleen, colon, thymus, testis and ovaries.

Function	Alternative products:Additional isoforms seem to exist,Disease:Defects in KCNQ1 are the cause of atrial fibrillation type 3 (ATFB3) [MIM:607554]. Atrial fibrillation is a common disorder of cardiac rhythm that is hereditary in a small subgroup of patients. It is characterized by disorganized atrial electrical activity, progressive deterioration of atrial electromechanical function and ineffective pumping of blood into the ventricles. It can be associated with palpitations, syncope, thromboembolic stroke, and congestive heart failure.,Disease:Defects in KCNQ1 are the cause of Jervell and Lange-Nielsen syndrome type 1 (JLNS1) [MIM:220400]. JLNS1 is an autosomal recessive disorder characterized by congenital deafness, prolongation of the QT interval, syncopal attacks due to ventricular arrhythmias, and a high risk of sudden death.,Disease:Defects in KCNQ1 are the cause of long QT syndrome type 1 (LQT1) [MIM:192500]; also known as Romano-Ward syndrome (RWS). Long QT syndromes are heart disorders characterized by a prolonged QT interval on the ECG and polymorphic ventricular arrhythmias. They cause syncope and sudden death in response to exercise or emotional stress. LQT1 inheritance is an autosomal dominant.,Disease:Defects in KCNQ1 are the cause of short QT syndrome type 2 (SQT2) [MIM:609621]. Short QT syndromes are heart disorders characterized by idiopathic persistently and uniformly short QT interval on ECG in the absence of structural heart disease in affected individuals. They cause syncope and sudden death.,Domain:The segment S4 is probably the voltage-sensor and is characterized by a series of positively charged amino acids at every third position.,Function:Probably important in cardiac repolarization. Associates with KCNE1 (MinK) to form the I(Ks) cardiac potassium current. Elicits a rapidly activating, potassium-selective outward current. Muscarinic agonist oxotremorine-M strongly suppresses KCNQ1/KCNE1 current in CHO cells in which cloned KCNQ1/KCNE1 channels were coexpressed with M1 muscarinic receptors. May associate also with KCNE3 (MiRP2) to form the potassium channel that is important for cyclic AMP-stimulated intestinal secretion of chloride ions, which is reduced in cystic fibrosis and pathologically stimulated in cholera and other forms of secretory diarrhea.,miscellaneous:Mutagenesis experiments were carried out by expressing in Xenopus oocytes or COS-7 cells KCNQ1 mutants either individually (homomultimers) or in combination with both wild-type KCNQ1 (mut/wt homomultimers) and minK (heteromultimers).,online information:Congenital long QT syndrome website,online information:KCNQ1 mutations page,online information:KvLQT1 entry,similarity:Belongs to the potassium channel family. KQT subfamily.,subunit:Heterotetramer with KCNE1 (MinK) or KCNE3 (MiRP2). Interacts with CALM.,tissue specificity:Abundantly expressed in heart, pancreas, prostate, kidney, small intestine and peripheral blood leukocytes. Less abundant in placenta, lung, spleen, colon, thymus, testis and ovaries.,

Validation Data

Contact information

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