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KCNE2 Rabbit pAb

Catalog # AP97949

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9Y6J6
Other Accession	Q9Y6J6
Predicted	Rat, Pig, Human, Mouse, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	14472
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KCNE2
Epitope Specificity	51-123/123
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 KCNE family.
SUBUNIT	Associates with KCNH2/ERG1. May associate with KCNQ1/KVLQT1, KCNQ2 and KCNQ3. Associates with HCN1 and probably HCN2 (By similarity).
DISEASE	Defects in KCNE2 are the cause of long QT syndrome type 6 (LQT6) [MIM:613693]. 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. KCNE2 mutants form channels that open slowly and close rapidly, thereby diminishing potassium currents. Defects in KCNE2 are the cause of familial atrial fibrillation type 4 (ATFB4) [MIM:611493]. 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 and ineffective atrial contraction promoting blood stasis in the atria and reduces ventricular filling. It can result in palpitations, syncope, thromboembolic stroke, and congestive heart failure.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Ancillary protein that assembles as a beta subunit with a voltage-gated potassium channel complex of pore-forming alpha subunits. Modulates the gating kinetics and enhances stability of the channel complex. Associated with KCNH2/HERG is proposed to form the rapidly activating component of the delayed rectifying potassium current in heart (IKr). May associate with KCNQ2 and/or KCNQ3 and modulate the native M-type current. May associate with KCNQ1/KVLTQ1 and elicit a voltage-independent current. May associate with HCN1 and HCN2 and increase potassium current.

Additional Information

Gene ID	9992

Other Names	ATFB4; LQT5; LQT6; MIRP1; 2200002I16Rik; KCNE2_HUMAN; KCNE2; MinK-related peptide 1 (MiRP1); Minimum potassium ion channel-related peptide 1; Potassium channel subunit beta MiRP1; KCNE2_MOUSE; MinK-related peptide 1; potassium voltage-gated channel subfamily E regulatory subunit 2; potassium voltage-gated channel, Isk-related family, member 2; potassium channel, voltage gated subfamily E regulatory beta subunit 2
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	KCNE2 (HGNC:6242)
Function	Ancillary protein that functions as a regulatory subunit of the voltage-gated potassium (Kv) channel complex composed of pore- forming and potassium-conducting alpha subunits and of regulatory beta subunits (PubMed:10219239, PubMed:11034315, PubMed:11101505, PubMed:12185453, PubMed:20533308). KCNE2 beta subunit modulates the gating kinetics and enhances stability of the channel complex (PubMed:10219239, PubMed:11034315, PubMed:11101505, PubMed:12185453, PubMed:20533308). Alters the gating of the delayed rectifier Kv channel containing KCNB1 alpha subunit (PubMed:11101505, PubMed:20533308). Associates with KCNH2/HERG alpha subunit Kv channel to form the rapidly activating component of the delayed rectifying potassium current (IKr) in heart (PubMed:10219239, PubMed:12185453). May associate with KCNQ2 and/or KCNQ3 alpha subunits to modulate the native M-type current (PubMed:11034315). May associate with HCN1 and HCN2 channel subunits to increase potassium current (By similarity). Forms a heterooligomer complex with KCNQ1/KVLQT1 alpha subunits which leads to currents with an apparently instantaneous activation, a rapid deactivation process and a linear current-voltage relationship and decreases the amplitude of the outward current (PubMed:11101505). KCNQ1-KCNE2 channel associates with Na(+)-coupled myo-inositol symporter in the apical membrane of choroid plexus epithelium and regulates the myo-inositol gradient between blood and cerebrospinal fluid with an impact on neuron excitability (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P63161} Apical cell membrane {ECO:0000250|UniProtKB:Q9D808}; Single-pass membrane protein. Note=Colocalizes with KCNB1 at the plasma membrane. {ECO:0000250|UniProtKB:P63161}
Tissue Location	Highly expressed in brain, heart, skeletal muscle, pancreas, placenta, kidney, colon and thymus. A small but significant expression is found in liver, ovary, testis, prostate, small intestine and leukocytes. Very low expression, nearly undetectable, in lung and spleen.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.