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KCNE1 Rabbit pAb

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Catalog # AP52133

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P15382
Predicted	Rat, Pig, Dog, Human, Mouse, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	14675
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KCNE1
Epitope Specificity	41-129/129
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass type I membrane protein.
DISEASE	Defects in KCNE1 are the cause of Jervell and Lange-Nielsen syndrome type 2 (JLNS2) [MIM:612347]. JLNS2 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. Defects in KCNE1 are the cause of long QT syndrome type 5 (LQT5) [MIM:613695]. 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. KCNE1 mutants form channels that open slowly and close rapidly, thereby diminishing potassium currents.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The product of this gene belongs to the potassium channel KCNE family. Potassium ion channels are essential to many cellular functions and show a high degree of diversity, varying in their electrophysiologic and pharmacologic properties. This gene encodes a transmembrane protein known to associate with the product of the KVLQT1 gene to form the delayed rectifier potassium channel. Mutation in this gene are associated with both Jervell and Lange-Nielsen and Romano-Ward forms of long-QT syndrome. Alternatively spliced transcript variants encoding the same protein have been identified. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	3753
Other Names	Potassium voltage-gated channel subfamily E member 1, Delayed rectifier potassium channel subunit IsK, IKs producing slow voltage-gated potassium

	channel subunit beta Mink, Minimal potassium channel, MinK, KCNE1 (HGNC:6240)
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	KCNE1 (HGNC:6240)
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. KCNE1 beta subunit modulates the gating kinetics and enhances stability of the channel complex (PubMed:19219384, PubMed:20533308, PubMed:9230439). Alters the gating of the delayed rectifier Kv channel containing KCNB1 alpha subunit (PubMed:19219384). Associates with KCNQ1/KVLQT1 alpha subunit to form the slowly activating delayed rectifier cardiac potassium (IKs) channel responsible for ventricular muscle action potential repolarization (PubMed:20533308). The outward current reaches its steady state only after 50 seconds (Probable). Assembly with KCNH2/HERG alpha subunit Kv channel may regulate the rapidly activating component of the delayed rectifying potassium current (IKr) in heart (PubMed:9230439).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Apical cell membrane {ECO:0000250|UniProtKB:P15383}. Membrane raft. Note=Colocalizes with KCNB1 at the plasma membrane (By similarity). Targets to the membrane raft when associated with KCNQ1 (PubMed:20533308). {ECO:0000250|UniProtKB:P15383, ECO:0000269|PubMed:20533308}
Tissue Location	Expressed in lung, kidney, testis, ovaries, small intestine, peripheral blood leukocytes. Expressed in the heart (PubMed:19219384). Not detected in pancreas, spleen, prostate and colon. Restrictively localized in the apical membrane portion of epithelial cells.

Background

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References

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Lai L.P.,et al.Gene 151:339-340(1994).
Rae J.L.,et al.Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
Chouabe C.,et al.EMBO J. 16:5472-5479(1997).
McDonald T.V.,et al.Nature 388:289-292(1997).

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