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KCNQ3 Rabbit pAb

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Catalog # AP56465

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O43525
Predicted	Rat, Human, Mouse, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	96742
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human KCNQ3
Epitope Specificity	721-820/872
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.
DISEASE	Defects in KCNQ3 are the cause of benign neonatal epilepsy type 2 (EBN2) [MIM:121201]. Benign neonatal epilepsy is characterized by clusters of seizures occurring in the first days of life. Most patients have spontaneous remission by 12 months of age and show normal psychomotor development. The disorder is distinguished from benign familial infantile seizures by an earlier age at onset.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The M channel is a slowly activating and deactivating potassium channel that plays a critical role in the regulation of neuronal excitability. The M channel is formed by the association of the protein encoded by this gene and one of two related proteins encoded by the KCNQ2 and KCNQ5 genes, both integral membrane proteins. M channel currents are inhibited by M1 muscarinic acetylcholine receptors and activated by retigabine, a novel anti-convulsant drug. Defects in this gene are a cause of benign familial neonatal convulsions type 2 (BFNC2), also known as epilepsy, benign neonatal type 2 (EBN2). Two variants encoding distinct isoforms have been found. [provided by RefSeq, Mar 2011]

Additional Information

Gene ID	3786
Other Names	Potassium voltage-gated channel subfamily KQT member 3, KQT-like 3, Potassium channel subunit alpha KvLQT3, Voltage-gated potassium channel subunit Kv7.3, KCNQ3 (HGNC:6297)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:500

	0-10000
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	KCNQ3 (HGNC:6297)
Function	Pore-forming subunit of the voltage-gated potassium (Kv) M- channel which is responsible for the M-current, a key controller of neuronal excitability (PubMed:16319223, PubMed:27564677, PubMed:28793216, PubMed:9872318). M-channel is composed of pore-forming subunits KCNQ2 and KCNQ3 assembled as heterotetramers (PubMed:14534157, PubMed:16319223, PubMed:27564677, PubMed:9872318). The native M-current has a slowly activating and deactivating potassium conductance which plays a critical role in determining the subthreshold electrical excitability of neurons as well as the responsiveness to synaptic inputs (PubMed:14534157, PubMed:16319223, PubMed:28793216). M-channel is selectively permeable in vitro to other cations besides potassium, in decreasing order of affinity K(+) > Rb(+) > Cs(+) > Na(+) (PubMed:28793216). M-channel association with SLC5A3/SMIT1 alters channel ion selectivity, increasing Na(+) and Cs(+) permeation relative to K(+) (PubMed:28793216). Suppressed by activation of M1 muscarinic acetylcholine receptors (PubMed:10713961). KCNQ3 also associates with KCNQ5 to form a functional channel in vitro and may also contribute to the M-current in brain (PubMed:11159685).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Predominantly expressed in brain.

Background

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