10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KCNQ5 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16776b

Product Information

Application	WB, E
Primary Accession	Q9NR82
Other Accession	NP_001153602.1, NP_001153604.1
Reactivity	Human, Mouse
Predicted	Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35794
Calculated MW	102179
Antigen Region	781-809

Additional Information

Gene ID	56479
Other Names	Potassium voltage-gated channel subfamily KQT member 5, KQT-like 5, Potassium channel subunit alpha KvLQT5, Voltage-gated potassium channel subunit Kv75, KCNQ5
Target/Specificity	This KCNQ5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 781-809 amino acids from the C-terminal region of human KCNQ5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KCNQ5 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KCNQ5 (HGNC:6299)
Function	Pore-forming subunit of the voltage-gated potassium (Kv) channel broadly

expressed in brain and involved in the regulation of neuronal excitability (PubMed:10787416, PubMed:10816588, PubMed:11159685, PubMed:28669405). Associates with KCNQ3/Kv7.3 pore- forming subunit to form a potassium channel which contributes to M-type current, a slowly activating and deactivating potassium conductance which plays a critical role in determining the subthreshold electrical excitability of neurons (PubMed:10816588, PubMed:11159685). Contributes, with other potassium channels, to the molecular diversity of a heterogeneous population of M-channels, varying in kinetic and pharmacological properties, which underlie this physiologically important current (PubMed:10816588). Also forms a functional channel with KCNQ1/Kv7.1 subunit that may contribute to vasoconstriction and hypertension (PubMed:24855057). Channel may be selectively permeable in vitro to other cations besides potassium, in decreasing order of affinity K(+) = Rb(+) > Cs(+) > Na(+) (PubMed:10816588). Similar to the native M-channel, KCNQ3-KCNQ5 potassium channel is suppressed by activation of the muscarinic acetylcholine receptor CHRM1 (PubMed:10816588).

Cellular Location

Cell membrane; Multi-pass membrane protein

Tissue Location

Strongly expressed in brain and skeletal muscle (PubMed:10787416, PubMed:10816588). In brain, expressed in cerebral cortex, occipital pole, frontal lobe and temporal lobe. Lower levels in hippocampus and putamen. Low to undetectable levels in medulla, cerebellum and thalamus (PubMed:10787416, PubMed:10816588)

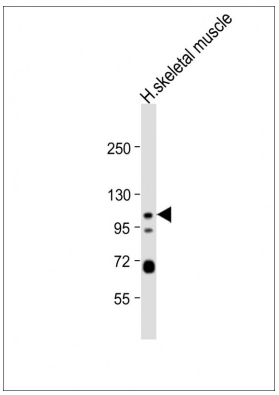
Background

This gene is a member of the KCNQ potassium channel gene family that is differentially expressed in subregions of the brain and in skeletal muscle. The protein encoded by this gene yields currents that activate slowly with depolarization and can form heteromeric channels with the protein encoded by the KCNQ3 gene. Currents expressed from this protein have voltage dependences and inhibitor sensitivities in common with M-currents. They are also inhibited by M1 muscarinic receptor activation. Multiple transcript variants encoding different isoforms have been found for this gene.

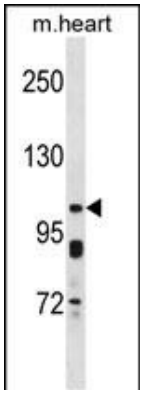
References

Bailey, S.D., et al. Diabetes Care (2010) In press :
Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
Roura-Ferrer, M., et al. Cell. Physiol. Biochem. 24 (5-6), 325-334 (2009) :
Bal, M., et al. J. Biol. Chem. 283(45):30668-30676(2008)

Images



Anti-KCNQ5 Antibody (C-term) at 1:1000 dilution + human skeletal muscle lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 102 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



KCNQ5 Antibody (C-term) (Cat. #AP16776b) western blot analysis in mouse heart tissue lysates (35ug/lane).This demonstrates the KCNQ5 antibody detected the KCNQ5 protein (arrow).

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