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

Kv7.4 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51823

Product Information

Application	WB
Primary Accession	P56696
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	77101

Additional Information

Gene ID	9132
Other Names	Potassium voltage-gated channel subfamily KQT member 4, KQT-like 4, Potassium channel subunit alpha KvLQT4, Voltage-gated potassium channel subunit Kv74, KCNQ4
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human Kv7.4. The exact sequence is proprietary.
Dilution	WB~~1:1000
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	KCNQ4 (HGNC:6298)
Function	Pore-forming subunit of the voltage-gated potassium (Kv) channel involved in the regulation of sensory cells excitability in the cochlea (PubMed:10025409, PubMed:34767770). KCNQ4/Kv7.4 channel is composed of 4 pore-forming subunits assembled as tetramers (PubMed:34767770). Promotes the outflow of potassium ions in the repolarization phase of action potential which plays a role in regulating membrane potential of excitable cells (PubMed:10025409, PubMed:11245603, PubMed:34767770). The channel conducts a slowly activating and deactivating current (PubMed:10025409, PubMed:11245603). Current often shows some inward rectification at positive potentials (PubMed:10025409). Channel may be selectively permeable in vitro to other cations besides potassium, in decreasing order of affinity K(+) = Rb(+) > Cs(+) > Na(+) (PubMed:10025409). Important for normal physiological function of inner ear such as sensory perception of sound (PubMed:10025409, PubMed:10369879).

Cellular Location	Basal cell membrane {ECO:0000250|UniProtKB:Q9JK96}; Multi-pass membrane protein. Note=Situated at the basal membrane of cochlear outer hair cells. {ECO:0000250|UniProtKB:Q9JK96}
Tissue Location	Expressed in the outer, but not the inner, sensory hair cells of the cochlea (PubMed:10025409). Slightly expressed in heart, brain and skeletal muscle (PubMed:10025409)

Background

Probably important in the regulation of neuronal excitability. May underlie a potassium current involved in regulating the excitability of sensory cells of the cochlea. KCNQ4 channels are blocked by linopirdin, XE991 and bepridil, whereas clofilium is without significant effect. Muscarinic agonist oxotremorine-M strongly suppress KCNQ4 current in CHO cells in which cloned KCNQ4 channels were coexpressed with M1 muscarinic receptors.

References

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