Rabbit KCNQ1 Polyclonal Antibody | anti-KCNQ1 antibody

KCNQ1 Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA327227	**Rabbit**	**Human, Mouse, Rat**	**ELISA, Immunohistochemistry, Western Blot**

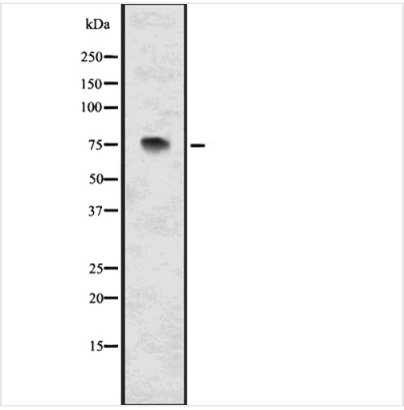
PRODUCT SYNONYMS

KCNQ1; Polyclonal Antibody; KCNQ1 Antibody; ATFB1; ATFB3; FLJ26167; IKs producing slow voltage-gated potassium channel subunit alpha; IKs producing slow voltage-gated potassium channel subunit alpha KvLQT1; Jervell and Lange-Nielsen syndrome 1; JLNS1; KCNA8; KCNA9; KCNQ1_HUMAN; kidney and cardiac voltage dependend K+ channel; KQT-like 1; Kv1.9; Kv7.1; KVLQT1; long (electrocardiographic) QT syndrome; Ward-Romano syndrome 1; LQT; LQT1; Potassium channel; voltage-gated; shaker-relatd subfamily; member 9; Potassium voltage-gated channel subfamily KQT member 1; potassium voltage-gated channel; KQT-like subfamily; member 1; RWS; slow delayed rectifier channel subunit; SQT2; Voltage-gated potassium channel subunit Kv7.1; WRS; anti-KCNQ1 antibody

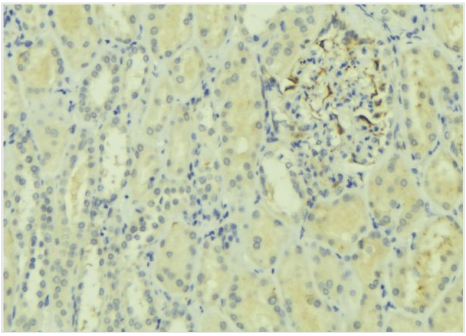
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	KCNQ1 antibody detects endogenous levels of total KCNQ1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	676
Applicable Applications for anti-KCNQ1 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human KCNQ1
Subcellular Location	Cell Membrane. Cytoplasmic Vesicle Membrane. Early Endosome. Membrane Raft. Endoplasmic Reticulum. Basolateral Cell Membrane. Colocalized with KCNE3 at the plasma membrane (PubMed:10646604). Upon 17beta-oestradiol treatment, colocalizes with RAB5A at early endosome (PubMed:23529131). Heterotetramer with KCNQ5 is highly retained at the endoplasmic reticulum and is localized outside of lipid raft microdomains (PubMed:24855057). During the early stages of epithelial cell polarization induced by the calcium switch it removed from plasma membrane to the endoplasmic reticulum where it retained and it is redistributed to the basolateral cell surface in a PI3K-dependent manner at a later stage (PubMed:21228319).
Tissue Specificity	Abundantly expressed in heart, pancreas, prostate, kidney, small intestine and peripheral blood leukocytes. Less abundant in placenta, lung, spleen, colon, thymus, testis and ovaries.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)
Western blot analysis of KCNQ1 using COLO205 whole cell lysates



IHC (Immunohistochemistry)
AAA327227 at 1/100 staining Mouse kidney tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-KCNQ1 antibody	Function: Potassium channel that plays an important role in a number of tissues, including heart, inner ear, stomach and colon (By similarity) (PubMed:10646604). Associates with KCNE beta subunits that modulates current kinetics (By similarity) (PubMed:9312006, PubMed:9108097, PubMed:8900283, PubMed:10646604, PubMed:11101505, PubMed:19687231). Induces a voltage-dependent by rapidly activating and slowly deactivating potassium-selective outward current (By similarity) (PubMed:9312006, PubMed:9108097, PubMed:8900283, PubMed:10646604, PubMed:11101505). Promotes also a delayed voltage activated potassium current showing outward rectification characteristic (By similarity). During beta-adrenergic receptor stimulation participates in cardiac repolarization by associating with KCNE1 to form the I(Ks) cardiac potassium current that increases the amplitude and slows down the activation kinetics of outward potassium current I(Ks) (By similarity) (PubMed:9312006, PubMed:9108097, PubMed:8900283, PubMed:10646604, PubMed:11101505). Muscarinic agonist oxotremorine-M strongly suppresses KCNQ1/KCNE1 current (PubMed:10713961). When associated with KCNE3, forms the potassium channel that is important for cyclic AMP-stimulated intestinal secretion of chloride ions (PubMed:10646604). This interaction with KCNE3 is reduced by 17beta-estradiol, resulting in the reduction of currents (By similarity). During conditions of increased substrate load, maintains the driving force for proximal tubular and intestinal sodium ions absorption, gastric acid secretion, and cAMP-induced jejunal chloride ions secretion (By similarity). Allows the provision of potassium ions to the luminal membrane of the secretory canaliculus in the resting state as well as during stimulated acid secretion (By similarity). When associated with KCNE2, forms a heterooligomer complex leading 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). When associated with KCNE4, inhibits voltage-gated potassium channel activity (PubMed:19687231). When associated with KCNE5, this complex only conducts current upon strong and continued depolarization (PubMed:12324418). Also forms a heterotetramer with KCNQ5; has a voltage-gated potassium channel activity (PubMed:24855057). Binds with phosphatidylinositol 4, 5-bisphosphate (PubMed:25037568). Subunit Structure: Tetramer (PubMed:18165683, PubMed:19693805). Heterotetramer with KCNE1; targets to the membrane raft (PubMed:25037568, PubMed:19693805, PubMed:20533308). Interacts (via C-terminus) with CALM; forms a heterotetramer in a calcium-independent manner (PubMed:18165683). Interacts with AKAP9; targets protein kinase A (PKA) catalytic and regulatory subunits and protein phosphatase 1 (PP1) to the KCNQ1-KCNE1 complex, allowing PKA-mediated phosphorylation and increase of delayed rectifier potassium channel activity (PubMed:11799244, PubMed:25037568). Interacts with KCNE2; forms a heterooligomer complex that targets to the membrane raft and leading 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, PubMed:20533308). Interacts with AP2M1; mediates estrogen-induced internalization via clathrin-coated vesicles (PubMed:23529131). Interacts with NEDD4L; promotes internalization and decreases I(Ks) currents (PubMed:23529131, PubMed:22024150). Interacts with USP2; counteracts the NEDD4L-specific down-regulation of I(Ks) and restore plasma membrane localization (PubMed:22024150). Heterotetramer with KCNQ5; has a voltage-gated potassium channel activity (PubMed:24855057). Interacts with KCNE3; alters membrane raft localization (PubMed:20533308). Interacts with KCNE4; impairs KCNQ1 localization in lipid rafts and inhibits voltage-gated potassium channel activity (PubMed:19687231, PubMed:20533308). Interacts with KCNE5; impairs KCNQ1 localization in lipid rafts and only conducts current upon strong and continued depolarization (PubMed:20533308, PubMed:12324418). Post-translational Modifications: Phosphorylation at Ser-27 by PKA; increases delayed rectifier potassium channel activity of the KCNQ1-KCNE1 complex through a macromolecular complex that includes PKA, PP1, and the targeting protein AKAP9. Ubiquitinated by NEDD4L; promotes internalization (PubMed:22024150). The ubiquitinylated form is internalized through a clathrin-mediated endocytosis by interacting with AP2M1 and is recycled back to the cell membrane via RAB4A and RAB11A (PubMed:23529131).Deubiquitinated by USP2; counteracts the NEDD4L-specific down-regulation of I(Ks) and restores the membrane localization. Similarity: The segment S4 is probably the voltage-sensor and is characterized by a series of positively charged amino acids at every third position.The coiled-coil domain mediates tetramerization.The segment S6 is involved in the inhibition of voltage-gated potassium channel activity by KCNE4.The C-terminal assembly domain promotes self-interactiona; allows functional channel. Belongs to the potassium channel family. KQT (TC 1.A.1.15) subfamily. Kv7.1/KCNQ1 sub-subfamily.

NCBI AND UNIPROT INFORMATION

NCBI GI #	32479527
NCBI GeneID	3784
NCBI Accession #	NP_000209.2
NCBI GenBank Nucleotide #	NM_000218.2

UniProt Accession #	P51787; O00347; O60607; O94787; Q14D14; Q7Z6G9; Q92960; Q9UMN8; Q9UMN9
Molecular Weight	Observed: 75 kDa Predicted: 75 kDa
NCBI Official Full Name	potassium voltage-gated channel subfamily KQT member 1 isoform 1
NCBI Official Synonym Full Names	potassium voltage-gated channel subfamily Q member 1
NCBI Official Symbol	KCNQ1
NCBI Official Synonym Symbols	LQT; RWS; WRS; LQT1; SQT2; ATFB1; ATFB3; JLNS1; KCNA8; KCNA9; Kv1.9; Kv7.1; KVLQT1
NCBI Protein Information	potassium voltage-gated channel subfamily KQT member 1
UniProt Protein Name	Potassium voltage-gated channel subfamily KQT member 1
UniProt Gene Name	**KCNQ1**

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: https://stage.aaabiotech.com/polyclonal/kcnq1-antibody-immunohistochemistry-western-blot-elisa/327227