Datasheet for ABIN7563547

KCNQ1 Protein (AA 1-668) (His tag)

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Overview

Quantity:	1 mg
Target:	KCNQ1
Protein Characteristics:	AA 1-668
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCNQ1 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant Kcnq1 Protein expressed in mammalian cells.
Sequence:	MDTASSPPSA ERKRAGWSRL LGARRGSAVV KKCPFSLELA EGGPEGSTVY APIAPTGAPG LAPPMSTPVS PAPAPADLGP RPRVSLDPRV SIYSARRPLL ARTHIQGRVY NFLERPTGWK CFVYHFTVFL IVLVCLIFSV LSTIEQYAAL ATGTLFWMEI VLVVFFGTEY VVRLWSAGCR SKYVGIWGRL RFARKPISII DLIVVVASMV VLCVGSKGQV FATSAIRGIR FLQILRMLHV DRQGGTWRLL GSVVFIHRQE LITTLYIGFL GLIFSSYFVY LAEKDAVNES GRIEFGSYAD ALWWGVVTVT TIGYGDKVPQ TWVGKTIASC FSVFAISFFA LPAGILGSGF ALKVQQKQRQ KHFNRQIPAA ASLIQTAWRC YAAENPDSAT WKIYVRKPAR SHTLLSPSPK PKKSVMVKKK KFKLDKDNGM SPGEKMFNVP HITYDPPEDR RPDHFSIDGY DSSVRKSPTL LEVSTPHFLR TNSFAEDLDL EGETLLTPIT HVSQLRDHHR ATIKVIRRMQ YFVAKKKFQQ ARKPYDVRDV IEQYSQGHLN LMVRIKELQR RLDQSIGKPS LFIPISEKSK DRGSNTIGAR LNRVEDKVTQ LDQRLVIITD MLHQLLSMQQ GGPTCNSRSQ VVASNEGGSI NPELFLPSNS LPTYEQLTVP QTGPDEGS **Sequence without tag. The proposed Purification-Tag is based on experiences**

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Product Details

	with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	KCNQ1
Alternative Name:	Kcnq1 (KCNQ1 Products)
Background:	Potassium voltage-gated channel subfamily KQT member 1 (IKs producing slow voltage-gated potassium channel subunit alpha KvLQT1) (KQT-like 1) (Voltage-gated potassium channel subunit Kv7.1),FUNCTION: Potassium channel that plays an important role in a number of tissues, including heart, inner ear, stomach and colon (By similarity) (PubMed:16314573, PubMed:11120752, PubMed:15004216). Associates with KCNE beta subunits that modulates current kinetics (By similarity) (PubMed:17597584, PubMed:15004216). Induces a voltage-dependent by rapidly activating and slowly deactivating potassium-selective outward current (By similarity) (PubMed:8900282). Promotes also a delayed voltage activated potassium current showing outward rectification characteristic (By similarity). During beta-adrenergic

Target Details

	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:15004216, PubMed:17597584). Muscarinic agonist oxotremorine-M strongly suppresses KCNQ1/KCNE1 current (By similarity). When associated with KCNE3, forms the potassium channel that is important for cyclic AMP-stimulated intestinal secretion of chloride ions (By similarity). 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 (PubMed:16314573). 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 (PubMed:19491250). When associated with KCNE2, forms an 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 (By similarity). When associated with KCNE4, inhibits voltage-gated potassium channel activity (By similarity). When associated with KCNE5, this complex only conducts current upon strong and continued depolarization (By similarity). Also forms a heterotetramer with KCNQ5, has a voltage-gated potassium channel activity (By similarity). Binds with phosphatidylinositol 4,5-bisphosphate (By similarity). KCNQ1-KCNE2 channel associates with Na(+)-coupled myo-inositol symporter in the apical membrane of choroid plexus epithelium and regulates the myo-inositol gradient between blood and cerebrospinal fluid with an impact on neuron excitability. {ECO:0000250|UniProtKB:P51787, ECO:0000250|UniProtKB:Q9Z0N7, ECO:0000269|PubMed:11120752, ECO:0000269|PubMed:15004216, ECO:0000269|PubMed:16314573, ECO:0000269|PubMed:17597584, ECO:0000269|PubMed:19491250, ECO:0000269|PubMed:24595108, ECO:0000269|PubMed:8900282}.
Molecular Weight:	74.5 kDa
UniProt:	P97414
Pathways:	Negative Regulation of Hormone Secretion, Sensory Perception of Sound

Application Details

Application Notes:	We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

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