Potassium Voltage-Gated Channel Subfamily KQT Member 2 (KCNQ2) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Potassium voltage-gated channel subfamily KQT member 2 (KCNQ2), Recombinant Protein
Full Product Name	Recombinant Human Potassium voltage-gated channel subfamily KQT member 2 (KCNQ2) , partial
Product Gene Name	KCNQ2 recombinant protein
Sequence	GFALKVQEQH RQKHFEKRRN PAAGLIQSAW RFYATNLSRT DLHSTWQYYE RTVTVPMYSS QTQTYGASRL IPPLNQLELL RNLKSKSGLA FRKDPPPEPS PSKGSPCRGP LCGCCPGRSS QKVSLKDRVF SSPRGVAAKG KGSPQAQTVR RSPSADQSLE DSPSKVPKSW SFGDRSRARQ AFRIKGAASR QNSEEASLPG EDIVDDKSCP CEFVTEDLTP GLKVSIRAVC VMRFLVSKRK FKESLRPYDV MDVIEQYSAG HLDMLSRIKS LQSRVDQIVG RGPAITDKDR TKGPAEAELP EDPSMMGRLG KVEKQVLSME KKLDFLVNIY MQRMGIPPTE TEAYFGAKEP EPAPPYHSPE DSREHVDRHG CIVKIVRSSS STGQKNFSAP PAAPPVQCPP STSWQPQSHP RQGHGTSPVG DHGSLVRIPP PPAHERSLSA YGGGNRASME FLRQEDTPGC RPPEGNLRDS DTSISIPSVD HEELERSFSG FSISQSKENL DALNSCYAAV APCAKVRPYI AEGESDTDSD LCTPCGPPPR SATGEGPFGD VGWAGPRK
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	44,261 Da
Sequence Positions	315-872aa of O43526-1; partial of isoform 1
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	121200
3D Structure	ModBase 3D Structure for O43526
Species	Homo sapiens (Human)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for KCNQ2 recombinant protein	MBS1225997 is a recombinant protein targeting KCNQ2. Also known as Recombinant Human Potassium voltage-gated channel subfamily KQT member 2 (KCNQ2) , partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of KCNQ2 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for KCNQ2. It may not necessarily be applicable to this product.

NCBI GI #	26051260
NCBI GeneID	3785

NCBI Accession #	NP_004509.2
UniProt Primary Accession #	O43526
UniProt Secondary Accession #	O43796; O75580; O95845; Q4VXP4; Q4VXR6; Q5VYT8; Q96J59; Q99454
UniProt Related Accession #	O43526
GenBank Nucleotide #	NM_004518.5
NCBI Official Full Name	potassium voltage-gated channel subfamily KQT member 2 isoform c
NCBI Official Synonym Full Names	potassium voltage-gated channel subfamily Q member 2
NCBI Official Symbol	KCNQ2
NCBI Official Synonym Symbols	EBN; BFNC; EBN1; ENB1; HNSPC; KV7.2; KCNA11
UniProt Protein Name	Potassium voltage-gated channel subfamily KQT member 2
UniProt Synonym Protein Names	KQT-like 2; Neuroblastoma-specific potassium channel subunit alpha KvLQT2; Voltage-gated potassium channel subunit Kv7.2
Protein Family	Potassium voltage-gated channel subfamily
UniProt Gene Name	KCNQ2
NCBI Protein Information	potassium voltage-gated channel subfamily KQT member 2
NCBI Summary for KCNQ2	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 a related protein encoded by the KCNQ3 gene, 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 1 (BFNC), also known as epilepsy, benign neonatal type 1 (EBN1). At least five transcript variants encoding five different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for KCNQ2	Associates with KCNQ3 to form a potassium channel with essentially identical properties to the channel underlying the native M-current, 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. Therefore, it is important in the regulation of neuronal excitability. KCNQ2/KCNQ3 current is blocked by linopirdine and XE991, and activated by the anticonvulsant retigabine (PubMed:9836639, PubMed:11572947, PubMed:14534157, PubMed:12742592, PubMed:17872363). As the native M-channel, the potassium channel composed of KCNQ2 and KCNQ3 is also suppressed by activation of the muscarinic acetylcholine receptor CHRM1 (PubMed:10684873).
Research Articles on KCNQ2	**1.** Mutations in STXBP1 encoding the syntaxin binding protein 1 can produce a phenotype similar to that of KCNQ2 mutations
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