

KCNA4 Blocking Peptide (C-term)

Synthetic peptide Catalog # BP19983b

Specification

KCNA4 Blocking Peptide (C-term) - Product Information

Primary Accession P22459

Other Accession P15385, Q61423,

Q05037, NP_002224.1

KCNA4 Blocking Peptide (C-term) - Additional Information

Gene ID 3739

Other Names

Potassium voltage-gated channel subfamily A member 4, HPCN2, Voltage-gated K(+) channel HuKII, Voltage-gated potassium channel HBK4, Voltage-gated potassium channel HK1, Voltage-gated potassium channel subunit Kv14, KCNA4, KCNA4L

Target/Specificity

The synthetic peptide sequence is selected from aa 606-619 of HUMAN KCNA4

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

KCNA4 Blocking Peptide (C-term) - Protein Information

Name KCNA4

KCNA4 Blocking Peptide (C-term) - Background

Potassium channels represent the most

complex class of

voltage-gated ion channels from both

functional and structural

standpoints. Their diverse functions include

regulating

neurotransmitter release, heart rate, insulin

secretion, neuronal

excitability, epithelial electrolyte transport,

smooth muscle

contraction, and cell volume. Four

sequence-related potassium

channel genes - shaker, shaw, shab, and shal -

have been identified

in Drosophila, and each has been shown to

have human homolog(s).

This gene encodes a member of the potassium

channel, voltage-gated,

shaker-related subfamily. This member

contains six

membrane-spanning domains with a

shaker-type repeat in the fourth

segment. It belongs to the A-type potassium

current class, the

members of which may be important in the

regulation of the fast

repolarizing phase of action potentials in heart

and thus may

influnce the duration of cardiac action

potential. The coding

region of this gene is intronless, and the gene

is clustered with

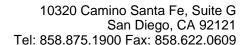
genes KCNA3 and KCNA10 on chromosome 1.

KCNA4 Blocking Peptide (C-term) - References

Schwetz, T.A., et al. Biochim. Biophys. Acta 1798(3):367-375(2010)
Angelova, P.R., et al. Eur. J. Neurosci. 29(10):1943-1950(2009)
Mckeown, L., et al. J. Biol. Chem.

283(44):30421-30432(2008) Lee, I.H., et al. Mol. Pharmacol.

73(3):619-626(2008)





Synonyms KCNA4L

Function

Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes. Forms tetrameric potassium- selective channels through which potassium ions pass in accordance with their electrochemical gradient. The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (PubMed:19912772, PubMed:8495559). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCNA1, KCNA2, KCNA4, KCNA5, and possibly other family members as well; channel properties depend on the type of alpha subunits that are part of the channel (PubMed:8495559). Channel properties are modulated by cytoplasmic beta subunits that regulate the subcellular location of the alpha subunits and promote rapid inactivation. In vivo, membranes probably contain a mixture of heteromeric potassium channel complexes, making it difficult to assign currents observed in intact tissues to any particular potassium channel family member. Homotetrameric KCNA4 forms a potassium channel that opens in response to membrane depolarization, followed by rapid spontaneous channel closure (PubMed:<a h ref="http://www.uniprot.org/citations/19912 772" target=" blank">19912772, PubMed:8495559). Likewise, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (PubMed:17156368).

Cellular Location

Cell membrane; Multi-pass membrane protein Cell projection, axon {ECO:0000250|UniProtKB:P15385}

Tissue Location

Gessler, M., et al. Hum. Genet. 90(3):319-321(1992)





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Expressed in brain, and at lower levels in the testis, lung, kidney, colon and heart (PubMed:27582084). Detected in heart ventricle.

KCNA4 Blocking Peptide (C-term) -**Protocols**

Provided below are standard protocols that you may find useful for product applications.

• Blocking Peptides