

**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 influence 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, J.H., et al. *Mol. Pharmacol.* 73(3):619-626(2008)

**Synonyms** KCNA4LGessler, M., et al. Hum. Genet.  
90(3):319-321(1992)**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:<a href="http://www.uniprot.org/citations/19912772" target="\_blank">19912772</a>, PubMed:<a href="http://www.uniprot.org/citations/8495559" target="\_blank">8495559</a>). 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:<a href="http://www.uniprot.org/citations/8495559" target="\_blank">8495559</a>). 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 href="http://www.uniprot.org/citations/19912772" target="\_blank">19912772</a>, PubMed:<a href="http://www.uniprot.org/citations/8495559" target="\_blank">8495559</a>). Likewise, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (PubMed:<a href="http://www.uniprot.org/citations/17156368" target="\_blank">17156368</a>).

**Cellular Location**

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

**Tissue Location**

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](#)