

**KCNAB1 Antibody(N-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP19413a****Specification**

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**KCNAB1 Antibody(N-term) Blocking peptide - Product Information**Primary Accession [Q14722](#)**KCNAB1 Antibody(N-term) Blocking peptide - Additional Information****Gene ID** 7881**Other Names**

Voltage-gated potassium channel subunit beta-1, K(+) channel subunit beta-1, Kv-beta-1, KCNAB1, KCNA1B

**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.

**KCNAB1 Antibody(N-term) Blocking peptide - Protein Information****Name** KCNAB1**Synonyms** KCNA1B**Function**

Cytoplasmic potassium channel subunit that modulates the characteristics of the channel-forming alpha-subunits (PubMed:<a href="http://www.uniprot.org/citations/7499366" target="\_blank">7499366</a>, PubMed:<a href="http://www.uniprot.org/citations/7603988" target="\_blank">7603988</a>, PubMed:<a href="http://www.uniprot.org/citations/17156368" target="\_blank">17156368</a>, PubMed:<a href="http://www.uniprot.org/citations/17540341" target="\_blank">17540341</a>, PubMed:<a href="http://www.uniprot.org/citations/19713757" target="\_blank">19713757</a>). Modulates action potentials via its effect on the pore-forming alpha subunits (By similarity). Promotes expression of the pore-forming alpha subunits at the cell membrane, and thereby increases channel activity (By similarity). Mediates closure of delayed rectifier potassium channels by physically obstructing the pore via its N-terminal domain and increases the speed of channel closure for other family members (PubMed:<a href="http://www.uniprot.org/citations/9763623" target="\_blank">9763623</a>). Promotes the closure of KCNA1, KCNA2 and KCNA5 channels (PubMed:<a href="http://www.uniprot.org/citations/7499366" target="\_blank">7499366</a>, PubMed:<a href="http://www.uniprot.org/citations/7890032" target="\_blank">7890032</a>, PubMed:<a href="http://www.uniprot.org/citations/7890032" target="\_blank">7890032</a>, PubMed:<a href="http://www.uniprot.org/citations/7890032" target="\_blank">7890032</a>).

[7603988](http://www.uniprot.org/citations/7603988), PubMed: [7649300](http://www.uniprot.org/citations/7649300), PubMed: [8938711](http://www.uniprot.org/citations/8938711), PubMed: [12077175](http://www.uniprot.org/citations/12077175), PubMed: [12130714](http://www.uniprot.org/citations/12130714), PubMed: [15361858](http://www.uniprot.org/citations/15361858), PubMed: [17540341](http://www.uniprot.org/citations/17540341), PubMed: [19713757](http://www.uniprot.org/citations/19713757)). Accelerates KCNA4 channel closure (PubMed: [7890032](http://www.uniprot.org/citations/7890032), PubMed: [7649300](http://www.uniprot.org/citations/7649300), PubMed: [7890764](http://www.uniprot.org/citations/7890764), PubMed: [9763623](http://www.uniprot.org/citations/9763623)). Accelerates the closure of heteromeric channels formed by KCNA1 and KCNA4 (PubMed: [17156368](http://www.uniprot.org/citations/17156368)). Accelerates the closure of heteromeric channels formed by KCNA2, KCNA5 and KCNA6 (By similarity). Isoform KvB1.2 has no effect on KCNA1, KCNA2 or KCNB1 (PubMed: [7890032](http://www.uniprot.org/citations/7890032), PubMed: [7890764](http://www.uniprot.org/citations/7890764)). Enhances KCNB1 and KCNB2 channel activity (By similarity). Binds NADPH; this is required for efficient down-regulation of potassium channel activity (PubMed: [17540341](http://www.uniprot.org/citations/17540341)). Has NADPH-dependent aldo-ketoreductase activity (By similarity). Oxidation of the bound NADPH strongly decreases N-type inactivation of potassium channel activity (By similarity).

#### Cellular Location

Cytoplasm. Membrane {ECO:0000250|UniProtKB:P63144}; Peripheral membrane protein; Cytoplasmic side. Cell membrane; Peripheral membrane protein; Cytoplasmic side. Note=Recruited to the cytoplasmic side of the cell membrane via its interaction with pore-forming potassium channel alpha subunits.

#### Tissue Location

In brain, expression is most prominent in caudate nucleus, hippocampus and thalamus. Significant expression also detected in amygdala and subthalamic nucleus. Also expressed in both healthy and cardiomyopathic heart. Up to four times more abundant in left ventricle than left atrium.

### KCNAB1 Antibody(N-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

### KCNAB1 Antibody(N-term) Blocking peptide - Images

### KCNAB1 Antibody(N-term) Blocking peptide - 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 includes three distinct isoforms which are encoded by three alternatively spliced transcript variants of this gene. These three isoforms are beta subunits, which form heteromultimeric complex with alpha subunits and modulate the activity of the pore-forming alpha subunits.

**KCNAB1 Antibody(N-term) Blocking peptide - References**

Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Decher, N., et al. EMBO J. 27(23):3164-3174(2008)Cavalleri, G.L., et al. Lancet Neurol 6(11):970-980(2007)Lamesch, P., et al. Genomics 89(3):307-315(2007)Lunetta, K.L., et al. BMC Med. Genet. 8 SUPPL 1, S13 (2007) :