

**KCNAB1 Antibody(N-term)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP19413a****Specification**

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**KCNAB1 Antibody(N-term) - Product Information**

Application	WB,E
Primary Accession	<a href="#">Q14722</a>
Other Accession	<a href="#">NP_003462.2</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	46563
Antigen Region	15-44

**KCNAB1 Antibody(N-term) - Additional Information****Gene ID** 7881**Other Names**

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

**Target/Specificity**

This KCNAB1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 15-44 amino acids from the N-terminal region of human KCNAB1.

**Dilution**

WB~~1:1000

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

KCNAB1 Antibody(N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

**Function** Cytoplasmic potassium channel subunit that modulates the characteristics of the channel-forming alpha-subunits (PubMed:[7499366](#), PubMed:[7603988](#), PubMed:[17156368](#), PubMed:[17540341](#), PubMed:[19713757](#)). 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:[9763623](#)). Promotes the closure of KCNA1, KCNA2 and KCNA5 channels (PubMed:[7499366](#), PubMed:[7890032](#), PubMed:[7603988](#), PubMed:[7649300](#), PubMed:[8938711](#), PubMed:[12077175](#), PubMed:[12130714](#), PubMed:[15361858](#), PubMed:[17540341](#), PubMed:[19713757](#)). Accelerates KCNA4 channel closure (PubMed:[7890032](#), PubMed:[7649300](#), PubMed:[7890764](#), PubMed:[9763623](#)). Accelerates the closure of heteromeric channels formed by KCNA1 and KCNA4 (PubMed:[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](#), PubMed:[7890764](#)). Enhances KCNB1 and KCNB2 channel activity (By similarity). Binds NADPH; this is required for efficient down- regulation of potassium channel activity (PubMed:[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**

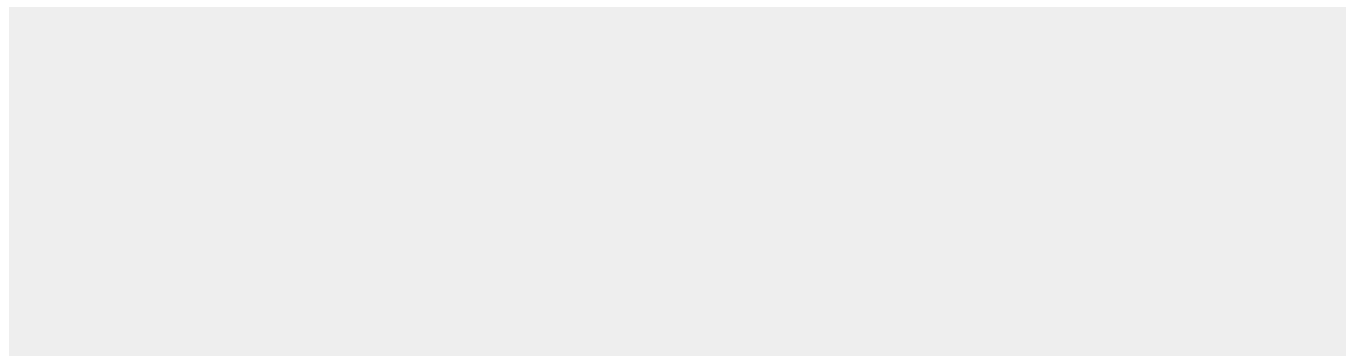
In brain, expression is most prominent in caudate nucleus, hippocampus and thalamus. Significant expression also detected in amygdala and subthalamic nucleus. Also expressed in both healthy and cardiomyopathic heart. Up to four times more abundant in left ventricle than left atrium.

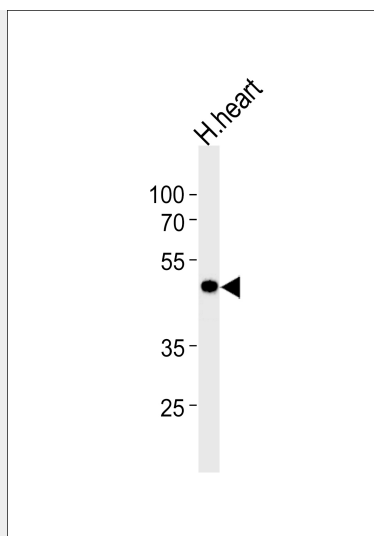
#### **KCNAB1 Antibody(N-term) - Protocols**

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **KCNAB1 Antibody(N-term) - Images**





Western blot analysis of lysate from human heart tissue lysate, using KCNAB1 Antibody (N-term)(Cat. #AP19413a). AP19413a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug per lane.

#### **KCNAB1 Antibody(N-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 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) - 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) :