

**KCNC2 Antibody (C-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP13871b****Specification**

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**KCNC2 Antibody (C-term) Blocking peptide - Product Information**Primary Accession [Q96PR1](#)**KCNC2 Antibody (C-term) Blocking peptide - Additional Information**

Gene ID 3747

**Other Names**

Potassium voltage-gated channel subfamily C member 2, Voltage-gated potassium channel Kv32, KCNC2

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody AP13871b was selected from the C-term region of KCNC2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**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.

**KCNC2 Antibody (C-term) Blocking peptide - Protein Information**Name KCNC2 ([HGNC:6234](#))**Function**

Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes, primarily in the brain. Contributes to the regulation of the fast action potential repolarization and in sustained high-frequency firing in neurons of the central nervous system. Homotetramer channels mediate delayed-rectifier voltage-dependent potassium currents that activate rapidly at high- threshold voltages and inactivate slowly. Forms tetrameric 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: <http://www.uniprot.org/citations/15709110> target="\_blank">15709110</a>). Can form functional homotetrameric and heterotetrameric channels that contain variable proportions of KCNC1, and possibly other family members as well; channel properties depend on the type of alpha subunits that are part of the channel. Channel properties may be modulated either by the association with ancillary subunits, such as KCNE1,

KCNE2 or KCNE3 or indirectly by nitric oxide (NO) through a cGMP- and PKG-mediated signaling cascade, slowing channel activation and deactivation of delayed rectifier potassium channels (By similarity). Contributes to fire sustained trains of very brief action potentials at high frequency in retinal ganglion cells, thalamocortical and suprachiasmatic nucleus (SCN) neurons and in hippocampal and neocortical interneurons (PubMed:<a href="http://www.uniprot.org/citations/15709110" target="\_blank">15709110</a>). Sustained maximal action potential firing frequency in inhibitory hippocampal interneurons is negatively modulated by histamine H2 receptor activation in a cAMP- and protein kinase (PKA) phosphorylation- dependent manner. Plays a role in maintaining the fidelity of synaptic transmission in neocortical GABAergic interneurons by generating action potential (AP) repolarization at nerve terminals, thus reducing spike- evoked calcium influx and GABA neurotransmitter release. Required for long-range synchronization of gamma oscillations over distance in the neocortex. Contributes to the modulation of the circadian rhythm of spontaneous action potential firing in suprachiasmatic nucleus (SCN) neurons in a light-dependent manner (By similarity).

### **Cellular Location**

Cell membrane; Multi-pass membrane protein. Membrane {ECO:0000250|UniProtKB:Q14B80}; Multi-pass membrane protein. Perikaryon {ECO:0000250|UniProtKB:Q14B80}. Cell projection, axon {ECO:0000250|UniProtKB:Q14B80}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q14B80}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q14B80}. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q14B80}. Synapse, synaptosome {ECO:0000250|UniProtKB:P22462}. Synapse {ECO:0000250|UniProtKB:P22462}. Apical cell membrane {ECO:0000250|UniProtKB:P22462}. Basolateral cell membrane {ECO:0000250|UniProtKB:P22462}. Note=Colocalizes with parvalbumin in globus pallidus neurons. Localizes in thalamocortical axons and synapses. Localizes on the surface of cell somata, proximal dendrites and axonal membranes. Also detected throughout the neuropil Localized in starburst cell somata and proximal dendrite processes Colocalized with GABA in presynaptic terminals. Clustered in patches in somatic and proximal dendritic membrane as well as in axons and presynaptic terminals of GABAergic interneurons; some of these patches are found near postsynaptic sites. {ECO:0000250|UniProtKB:P22462, ECO:0000250|UniProtKB:Q14B80}

### **KCNC2 Antibody (C-term) Blocking peptide - Protocols**

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

- [Blocking Peptides](#)

### **KCNC2 Antibody (C-term) Blocking peptide - Images**

### **KCNC2 Antibody (C-term) Blocking peptide - Background**

The Shaker gene family of Drosophila encodes components of voltage-gated potassium channels and is comprised of four subfamilies. Based on sequence similarity, this gene is similar to one of these subfamilies, namely the Shaw subfamily. The protein encoded by this gene belongs to the delayed rectifier class of channel proteins and is an integral membrane protein that mediates the voltage-dependent potassium ion permeability of excitable membranes. Three transcript variants encoding three different isoforms have been found for this gene.

### **KCNC2 Antibody (C-term) Blocking peptide - References**

Wang, Z., et al. J. Gen. Physiol. 133(4):361-374(2009) Gutman, G.A., et al. Pharmacol. Rev. 57(4):473-508(2005) Haas, M., et al. Mamm. Genome 4(12):711-715(1993)