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Goat Anti-KCNC3 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1584a

Specification

Goat Anti-KCNC3 Antibody - Product Information

Application	**WB, E**
Primary Accession	Q14003
Other Accession	NP_004968, 3748
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**80578**

Goat Anti-KCNC3 Antibody - Additional Information

Gene ID 3748

Other Names
Potassium voltage-gated channel subfamily C member 3, KSHIIID, Voltage-gated potassium channel subunit Kv3.3, KCNC3

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-KCNC3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-KCNC3 Antibody - Protein Information

Name KCNC3

Function
Voltage-gated potassium channel that plays an important role in the rapid repolarization of fast-firing brain neurons. The channel opens in response to the voltage difference across the

membrane, forming a potassium-selective channel through which potassium ions pass in accordance with their electrochemical gradient. The channel displays rapid activation and inactivation kinetics (PubMed:10712820, PubMed:16501573, PubMed:19953606, PubMed:21479265, PubMed:22289912, PubMed:23734863, PubMed:25756792, PubMed:26997484). It plays a role in the regulation of the frequency, shape and duration of action potentials in Purkinje cells. Required for normal survival of cerebellar neurons, probably via its role in regulating the duration and frequency of action potentials that in turn regulate the activity of voltage-gated Ca(2+) channels and cellular Ca(2+) homeostasis (By similarity). Required for normal motor function (PubMed:16501573, PubMed:19953606, PubMed:21479265, PubMed:23734863, PubMed:25756792). Plays a role in the reorganization of the cortical actin cytoskeleton and the formation of actin veil structures in neuronal growth cones via its interaction with HAX1 and the Arp2/3 complex (PubMed:26997484).

Cellular Location
Cell membrane; Multi-pass membrane protein. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q63959}; Multi-pass membrane protein. Perikaryon {ECO:0000250|UniProtKB:Q63959}. Cell projection, axon {ECO:0000250|UniProtKB:Q63959}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q63959}. Cell projection, dendritic spine membrane {ECO:0000250|UniProtKB:Q01956}; Multi-pass membrane protein. Cytoplasm, cell cortex. Cytoplasm, cytoskeleton. Note=Detected on Purkinje cell dendritic spines, positioned perisynaptically but also in extrasynaptic positions along the spine membranes (By similarity). Detected at presynaptic calices of Held (By similarity). Colocalizes with the cortical actin cytoskeleton and the Arp2/3 complex (PubMed:26997484) {ECO:0000250|UniProtKB:Q01956, ECO:0000250|UniProtKB:Q63959, ECO:0000269|PubMed:26997484}

Goat Anti-KCNC3 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-KCNC3 Antibody - Images

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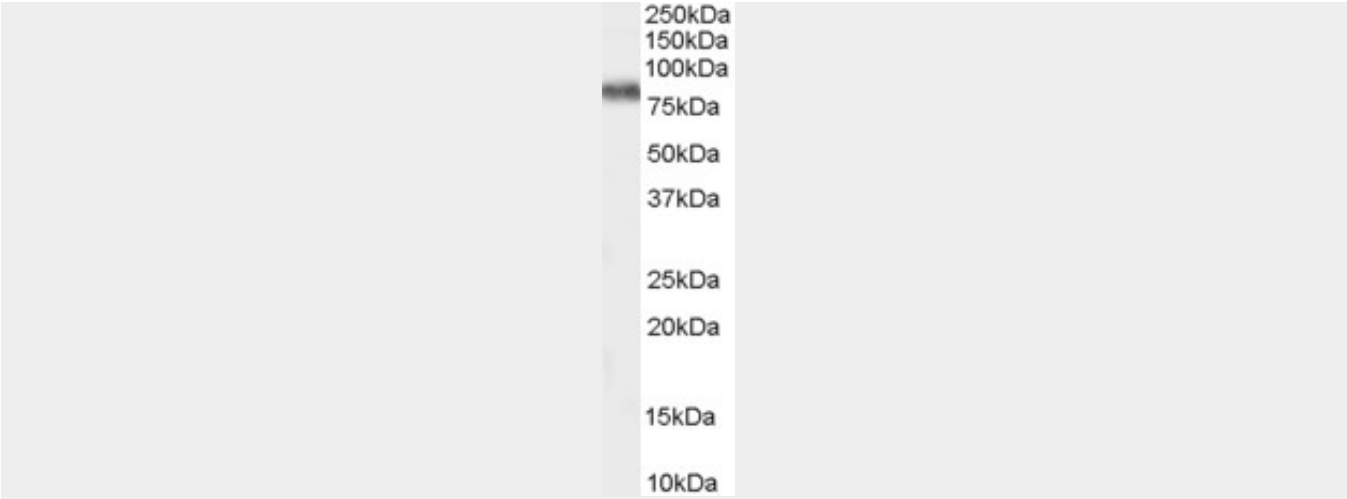

AF1584a (0.3 µg/ml) staining of human brain (Frontal Cortex) lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-KCNC3 Antibody - 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.

Goat Anti-KCNC3 Antibody - References

KCNC3: phenotype, mutations, channel biophysics-a study of 260 familial ataxia patients. Figueroa KP, et al. Hum Mutat, 2010 Feb. PMID 19953606.
Sca13. Waters MF, et al. Cerebellum, 2008. PMID 18592334.
Mutations in voltage-gated potassium channel KCNC3 cause degenerative and developmental central nervous system phenotypes. Waters MF, et al. Nat Genet, 2006 Apr. PMID 16501573.
International Union of Pharmacology. LIII. Nomenclature and molecular relationships of voltage-gated potassium channels. Gutman GA, et al. Pharmacol Rev, 2005 Dec. PMID 16382104.
Molecular genetics of hereditary spinocerebellar ataxia: mutation analysis of spinocerebellar ataxia genes and CAG/CTG repeat expansion detection in 225 Italian families. Brusco A, et al. Arch Neurol, 2004 May. PMID 15148151.