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AKAP5 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP19171c

Specification

AKAP5 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P24588

AKAP5 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 9495

Other Names
A-kinase anchor protein 5, AKAP-5, A-kinase anchor protein 79 kDa, AKAP 79, H21, cAMP-dependent protein kinase regulatory subunit II high affinity-binding protein, AKAP5, AKAP79

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.

AKAP5 Antibody (Center) Blocking Peptide - Protein Information

Name AKAP5

Synonyms AKAP79

Function
Multivalent scaffold protein that anchors the cAMP-dependent protein kinase/PKA to cytoskeletal and/or organelle-associated proteins, targeting the signal carried by cAMP to specific intracellular effectors (PubMed:1512224). Association with the beta2- adrenergic receptor (beta2-AR) not only regulates beta2-AR signaling pathway, but also the activation by PKA by switching off the beta2-AR signaling cascade. Plays a role in long term synaptic potentiation by regulating protein trafficking from the dendritic recycling endosomes to the plasma membrane and controlling both structural and functional plasticity at excitatory synapses (PubMed:25589740). In hippocampal pyramidal neurons, recruits KCNK2/TREK-1 channel at postsynaptic dense bodies microdomains and converts it to a leak channel no longer sensitive to stimulation by arachidonic acid, acidic pH or mechanical stress, nor inhibited by Gq-coupled receptors but still under the negative control of Gs-coupled receptors (By similarity). Associates with ORAI1 pore-forming subunit of CRAC channels in Ca(2+) signaling microdomains where it recruits NFATC2/NFAT1 and couples store-operated Ca(2+) influx to calmodulin and calcineurin signaling and activation of

NFAT-dependent transcriptional responses (PubMed:33941685).

Cellular Location
Postsynaptic recycling endosome membrane; Lipid- anchor. Cell projection, dendrite {ECO:0000250|UniProtKB:D3YVF0}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:D3YVF0}; Lipid-anchor. Note=Associates with lipid rafts.

Tissue Location
Predominantly in the cerebral cortex and the postsynaptic densities of the forebrain, and to a lesser extent in adrenal medulla, lung and anterior pituitary

AKAP5 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

AKAP5 Antibody (Center) Blocking Peptide - Images

AKAP5 Antibody (Center) Blocking Peptide - Background

The A-kinase anchor proteins (AKAPs) are a group ofstructurally diverse proteins, which have the common function ofbinding to the regulatory subunit of protein kinase A (PKA) andconfining the holoenzyme to discrete locations within the cell.This gene encodes a member of the AKAP family. The encoded proteinbinds to the RII-beta regulatory subunit of PKA, and also toprotein kinase C and the phosphatase calcineurin. It ispredominantly expressed in cerebral cortex and may anchor the PKAprotein at postsynaptic densities (PSD) and be involved in theregulation of postsynaptic events. It is also expressed in Tlymphocytes and may function to inhibit interleukin-2 transcriptionby disrupting calcineurin-dependent dephosphorylation of NFAT.

AKAP5 Antibody (Center) Blocking Peptide - References

Willoughby, D., et al. J. Biol. Chem. 285(26):20328-20342(2010)Chen, M.H., et al. Cell. Signal. 21(1):136-142(2009)Tavalin, S.J. J. Biol. Chem. 283(17):11445-11452(2008)Correia, S.S., et al. Nat. Neurosci. 11(4):457-466(2008)Chai, S., et al. J. Biol. Chem. 282(31):22668-22677(2007)