10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AKAP 79 Polyclonal Antibody

Catalog # AP68350

Product Information

Application	WB, IHC-P, IF
Primary Accession	P24588
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	47088

Additional Information

Gene ID	9495
Other Names	AKAP5; AKAP79; 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
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

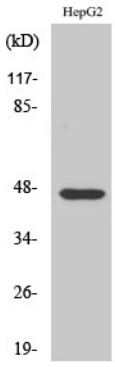
Name	AKAP5
Synonyms	AKAP79
Function	Multivalent scaffold protein that anchors the cAMP-dependent protein kinase/PKA to cytoskeletal and/or organelle-associated proteins, targeting the signal carried by cAMP to specific intracellular effectors (PubMed:1512224). Association with the beta2- adrenergic receptor (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

Background

May anchor the PKA protein to cytoskeletal and/or organelle-associated proteins, targeting the signal carried by cAMP to specific intracellular effectors. Association with to 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.

Images



Western Blot analysis of various cells using AKAP 79 Polyclonal Antibody diluted at 1：1000