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RAB3A Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP14815a

Specification

RAB3A Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P20336

RAB3A Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5864

Other Names
Ras-related protein Rab-3A, RAB3A

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.

RAB3A Antibody (N-term) Blocking Peptide - Protein Information

Name RAB3A (HGNC:9777)

Function
The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes (PubMed:2501306). Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different sets of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion (PubMed:2501306). RAB3A plays a central role in regulated exocytosis and secretion. Controls the recruitment, tethering and docking of secretory vesicles to the plasma membrane (PubMed:2501306). Upon stimulation, switches to its active GTP-bound form, cycles to vesicles and recruits effectors such as RIMS1, RIMS2, Rabphilin-3A/RPH3A, RPH3AL or SYTL4 to help the docking of vesicules onto the plasma membrane (By similarity). Upon GTP hydrolysis by GTPase-activating protein, dissociates from the vesicle membrane allowing the exocytosis to proceed (By similarity). Stimulates insulin secretion through interaction with RIMS2 or RPH3AL effectors in pancreatic beta cells (By similarity). Regulates calcium-dependent lysosome exocytosis and plasma membrane repair (PMR) via the interaction with 2 effectors, SYTL4 and myosin-9/MYH9 (PubMed:27325790). Acts as a positive regulator of acrosome content secretion in sperm cells by interacting with RIMS1

(PubMed:22248876, PubMed:30599141). Also plays a role in the regulation of dopamine release by interacting with synaptotagmin I/SYT (By similarity).

Cellular Location
Cytoplasm, cytosol {ECO:0000250|UniProtKB:P63012}. Lysosome Cytoplasmic vesicle, secretory vesicle {ECO:0000250|UniProtKB:P63012} Cell projection, axon {ECO:0000250|UniProtKB:P63011}. Cell membrane; Lipid-anchor; Cytoplasmic side. Presynapse {ECO:0000250|UniProtKB:P63011}. Postsynapse {ECO:0000250|UniProtKB:P63011}. Note=Cycles between a vesicle- associated GTP-bound form and a cytosolic GDP-bound form {ECO:0000250|UniProtKB:P63012}

Tissue Location
Specifically expressed in brain.

RAB3A Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

RAB3A Antibody (N-term) Blocking Peptide - Images

RAB3A Antibody (N-term) Blocking Peptide - Background

RAB3A is involved in exocytosis by regulating a late step in synaptic vesicle fusion. Could play a role in neurotransmitter release by regulating membrane flow in the nerve terminal.

RAB3A Antibody (N-term) Blocking Peptide - References

Szodorai, A., et al. J. Neurosci. 29(46):14534-14544(2009)Branham, M.T., et al. J. Biol. Chem. 284(37):24825-24839(2009)Figueiredo, A.C., et al. J. Biol. Chem. 283(34):23209-23216(2008)Lopez, C.I., et al. FASEB J. 21(14):4121-4130(2007)Quick, M.W. Handb Exp Pharmacol 175, 181-196 (2006) :