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Rab3a Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2128a

Product Information

Application	WB, FC, E
Primary Accession	P20336
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	6D1A12
Isotype	IgG1
Calculated MW	24984
Description	RAB3A (RAB3A, member RAS oncogene family) is a protein-coding gene. Diseases associated with RAB3A include choroideremia. GO annotations related to this gene include protein C-terminus binding and GTP binding. An important paralog of this gene is RAB10.
Immunogen	Purified recombinant fragment of human Rab3a (AA: 1-220) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	5864
Other Names	Ras-related protein Rab-3A, RAB3A
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
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	Rab3a Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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.

References

1.Mol Biol Rep. 2014 Jun;41(6):3951-9. 2.FASEB J. 2007 Dec;21(14):4121-30.

Images