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Anti-Rab3A Picoband Antibody

Catalog # ABO12013

Product Information

Application	WB
Primary Accession	P20336
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Ras-related protein Rab-3A(RAB3A) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5864
Other Names	Ras-related protein Rab-3A, RAB3A
Calculated MW	24984
Application Details	Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human
Subcellular Localization	Cell membrane ; Lipid-anchor ; Cytoplasmic side .
Tissue Specificity	Specifically expressed in brain.
Source	Eukaryota
Protein Name	Ras-related protein Rab-3A
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Rab3A (192-220aa DTADPAVTGAKQGPQLSDQQVPPHQDCAC), different from the related mouse and rat sequences by two amino acids.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

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.

Background

Ras-related protein Rab-3A is a protein that in humans is encoded by the RAB3A gene. This gene is mapped to 19p13.11. Synapsin I stimulated the RAB3A cycle by increasing GTP binding, GTPase activity, and RAB3A recruitment to the synaptic vesicle membrane. Conversely, RAB3A inhibited synapsin I binding to actin and synapsin I-induced synaptic vesicle clustering. It has been found that RAB3A was necessary for both forms of synaptic plasticity, and it is also involved in calcium exocytosis in neurons. In addition to that, RAB3A has been found to regulate a late step in synaptic vesicle fusion.

Images

Anti- Rab3A Picoband antibody, ABO12013, Western blottingAll lanes: Anti Rab3A (ABO12013) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Mouse Brain Tissue Lysate at 50ugPredicted bind size: 25KDObserved bind size: 25KD



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