Synaptic Systems

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Rab-GDI 1

Cat.No. 130 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. For reconstitution add 100 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 up to 1 : 10000 (AP staining) **IP**: yes **ICC**: yes **IHC**: not recommended **IHC-P/FFPE**: not tested yet
Clone	81.2
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 447 from bovine Rab-GDI1
Reactivity	Reacts with: human (P31150), rat (P50398), mouse (P50396), hamster, cow. Other species not tested yet.
Specificity	Recognizes Rab-GDI-α and -β.
Remarks	Immunoprecipitates Rab-GDI complexes.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Rab-GDI forms complexes exclusively with the GDP-form of rab proteins. Complex formation shields the geranylgeranyl moieties of rabs and leads to their dissociation from the membrane.
There are several isoforms of rab-GDI which nondiscriminately interact with all rab proteins including rab 3 and rab 5 but not with other small GTPases such as members of the rho or ras families. GDI-α is predominantly expressed in brain whereas other isoforms are more generally distributed.

Selected References SYSY Antibodies

Quantitative analysis of synaptic vesicle Rabs uncovers distinct yet overlapping roles for Rab3a and Rab27b in Ca2+-triggered exocytosis.
Pavlos NJ, Grønborg M, Riedel D, Chua JJ, Boyken J, Kloepper TH, Urlaub H, Rizzoli SO, Jahn R
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 30(40): 13441-53. **WB, IP**

Proteomics of photoreceptor outer segments identifies a subset of SNARE and Rab proteins implicated in membrane vesicle trafficking and fusion.
Kwok MC, Holopainen JM, Molday LL, Foster LJ, Molday RS
Molecular & cellular proteomics : MCP (2008) 7(6): 1053-66. **IHC**

Polarity Acquisition in Cortical Neurons Is Driven by Synergistic Action of Sox9-Regulated Wwp1 and Wwp2 E3 Ubiquitin Ligases and Intronic miR-140.
Ambrozkiewicz MC, Schwark M, Kishimoto-Suga M, Borisova E, Hori K, Salazar-Lázaro A, Rusanova A, Altas B, Piepkorn L, Bessa P, Schaub T, et al.
Neuron (2018) : . **WB; tested species: mouse**

ApoE2, ApoE3, and ApoE4 Differentially Stimulate APP Transcription and Aβ Secretion.
Huang YA, Zhou B, Wernig M, Südhof TC
Cell (2017) 168(3): 427-441.e21. **WB; tested species: mouse**

Loss of Doc2-Dependent Spontaneous Neurotransmission Augments Glutamatergic Synaptic Strength.
Ramirez DMO, Crawford DC, Chanaday NL, Trauterman B, Monteggia LM, Kavalali ET
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 37(26): 6224-6230. **WB; tested species: rat**

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Crawford DC, Ramirez DM, Trauterman B, Monteggia LM, Kavalali ET
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Conditional deletion of L1CAM in human neurons impairs both axonal and dendritic arborization and action potential generation.
Patzke C, Acuna C, Giam LR, Wernig M, Südhof TC
The Journal of experimental medicine (2016) 213(4): 499-515. **WB; tested species: mouse**

Analysis of conditional heterozygous STXBP1 mutations in human neurons.
Patzke C, Han Y, Covy J, Yi F, Maxeiner S, Wernig M, Südhof TC
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Alpha-Synuclein Expression Restricts RNA Viral Infections in the Brain.
Beatman EL, Massey A, Shives KD, Burrack KS, Chamanian M, Morrison TE, Beckham JD
Journal of virology (2015) 90(6): 2767-82. **WB; tested species: mouse**

The GTPase Rab26 links synaptic vesicles to the autophagy pathway.
Binotti B, Pavlos NJ, Riedel D, Wenzel D, Vorbrüggen G, Schalk AM, Kühnel K, Boyken J, Erck C, Martens H, Chua JJ, et al.
eLife (2015) 4: e05597. **WB**

Ear2 deletion causes early memory and learning deficits in APP/PS1 mice.
Kummer MP, Hammerschmidt T, Martinez A, Terwel D, Eichele G, Witten A, Figura S, Stoll M, Schwartz S, Pape HC, Schultze JL, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2014) 34(26): 8845-54. **WB; tested species: mouse**

α-Synuclein assembles into higher-order multimers upon membrane binding to promote SNARE complex formation.
Burré J, Sharma M, Südhof TC
Proceedings of the National Academy of Sciences of the United States of America (2014) 111(40): E4274-83. **WB**

Small-scale isolation of synaptic vesicles from mammalian brain.
Ahmed S, Holt M, Riedel D, Jahn R
Nature protocols (2013) 8(5): 998-1009. **WB; tested species: mouse**

Syntaxin-1 N-peptide and Habc-domain perform distinct essential functions in synaptic vesicle fusion.
Zhou P, Pang ZP, Yang X, Zhang Y, Rosenmund C, Bacaj T, Südhof TC
The EMBO journal (2013) 32(1): 159-71. **WB; tested species: mouse**

α-Synuclein membrane association is regulated by the Rab3a recycling machinery and presynaptic activity.
Chen RH, Wislet-Gendebien S, Samuel F, Visanji NP, Zhang G, Marsilio D, Langman T, Fraser PE, Tandon A
The Journal of biological chemistry (2013) 288(11): 7438-49. **WB**

Mover is a homomeric phospho-protein present on synaptic vesicles.
Ahmed S, Wittenmayer N, Kremer T, Hoeber J, Kiran Akula A, Urlaub H, Islinger M, Kirsch J, Dean C, Dresbach T
PloS one (2013) 8(5): e63474. **WB**