Synaptic Systems

Rudolf-Wissell-Str. 28
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Rabphilin 3a

Cat.No. 118 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H_2O, then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not recommended **ICC**: not tested yet **IHC**: yes **IHC-P/FFPE**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 671 to 684 from rat Rabphilin3a (UniProt Id: P47709)
Reactivity	Reacts with: human (Q9Y2J0), rat (P47709), mouse (P47708), cow. Other species not tested yet.
Specificity	Specific for rabphilin 3a.
matching control	118-0P

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

Rabphilin 3a is a putative effector protein for the low molecular weight GTP-binding protein rab 3. Rab 3 occurs in four isoforms (Rab 3a, b, c and d), all of which probably bind to rabphilin 3a when in the GTP-bound form.
Rabphilin 3a contains an N-terminal Zn^{2+}-finger sequence that is essential for binding rab 3, and two C-terminal C2 - domains that may bind Ca^{2+}. It does not have a transmembrane region.
Rabphilin 3a is primarily expressed in neurons where it is localized to synaptic vesicles. It is probably recruited to synaptic vesicles by rab 3a and 3c. The structure of rabphilin 3a and its interaction with rab 3 suggests that it may be a Ca^{2+} sensor on synaptic vesicles that is recruited to synaptic vesicles as a function of GTP by rab 3.

Selected References SYSY Antibodies

Novel localization of Rab3D in rat intestinal goblet cells and Brunner's gland acinar cells suggests a role in early Golgi trafficking.
Valentijn JA, van Weeren L, Ultee A, Koster AJ
American journal of physiology. Gastrointestinal and liver physiology (2007) 293(1): G165-77. **IHC; tested species: rat**

SNARE proteins are highly enriched in lipid rafts in PC12 cells: implications for the spatial control of exocytosis.
Chamberlain LH, Burgoyne RD, Gould GW
Proceedings of the National Academy of Sciences of the United States of America (2001) 98(10): 5619-24. **WB; tested species: rat**

Selected General References

Rabphilin knock-out mice reveal that rabphilin is not required for rab3 function in regulating neurotransmitter release.
Schlüter OM, Schnell E, Verhage M, Tzonopoulos T, Nicoll RA, Janz R, Malenka RC, Geppert M, Südhof TC
The Journal of neuroscience : the official journal of the Society for Neuroscience (1999) 19(14): 5834-46.

Genetics of synaptic vesicle function: toward the complete functional anatomy of an organelle.
Fernández-Chacón R, Südhof TC
Annual review of physiology (1999) 61: 753-76.

Rab3 reversibly recruits rabphilin to synaptic vesicles by a mechanism analogous to raf recruitment by ras.
Stahl B, Chou JH, Li C, Südhof TC, Jahn R
The EMBO journal (1996) 15(8): 1799-809.

Synaptic targeting of rabphilin-3A, a synaptic vesicle Ca2+/phospholipid-binding protein, depends on rab3A/3C.
Li C, Takei K, Geppert M, Daniell L, Stenius K, Chapman ER, Jahn R, De Camilli P, Südhof TC
Neuron (1994) 13(4): 885-98.

Rabphilin-3A, a putative target protein for smg p25A/rab3A p25 small GTP-binding protein related to synaptotagmin.
Shirataki H, Kaibuchi K, Sakoda T, Kishida S, Yamaguchi T, Wada K, Miyazaki M, Takai Y
Molecular and cellular biology (1993) 13(4): 2061-8.