

#3930 Store at -20°C

Rab3A Antibody


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 25	Source: Rabbit	UniProt ID: #P20336	Entrez-Gene Id: 5864
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Product Usage Information	Application Western Blotting	Dilution 1:1000
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Rab3A Antibody detects endogenous levels of total Rab3A protein.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu148 of human Rab3A. Antibodies are purified by peptide affinity chromatography.	
Background	The Rab family of proteins includes small, monomeric GTPases essential for regulating intracellular vesicle trafficking. Members of the Rab3 subfamily, including Rab3A-3D, are involved in the exocytosis of neurotransmitters and hormones (1). Rab3A is primarily expressed in neurons (2), neuroendocrine cells (such as rat PC-12 cells), and in human pancreatic β cells (3,4). By acting as a molecular switch between active GTP-bound Rab3A and the inactive GDP-bound form, Rab3A inhibits synaptic vesicle and chromaffin granule secretion during late membrane release (5,6). Loss-of-function studies suggest Rab3A is involved in controlling synaptic vesicle targeting and docking at the active zone (7). Through binding to its direct effector Rabphilin, Rab3A also orchestrates the coupling between synaptic vesicle exocytosis and endocytosis (8).	
Background References	1. Zerial, M. and McBride, H. (2001) <i>Nat Rev Mol Cell Biol</i> 2, 107-17. 2. Geppert, M. et al. (1994) <i>Nature</i> 369, 493-7. 3. Weber, E. et al. (1996) <i>J Biol Chem</i> 271, 6963-71. 4. Yaekura, K. et al. (2003) <i>J Biol Chem</i> 278, 9715-21. 5. Johannes, L. et al. (1994) <i>EMBO J</i> 13, 2029-37. 6. Geppert, M. et al. (1997) <i>Nature</i> 387, 810-4. 7. Leenders, A.G. et al. (2001) <i>Mol Biol Cell</i> 12, 3095-102. 8. Coppola, T. et al. (2001) <i>J Cell Sci</i> 114, 1757-64.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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