

Rab3A (D7B10) Rabbit mAb

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Applications: W	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 25	Source/Isotype: Rabbit IgG	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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Rab3A (D7B10) Rabbit mAb recognizes endogenous levels of total Rab3A protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg149 of human Rab3A protein.

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) *Nat Rev Mol Cell Biol* 2, 107-17.
2. Geppert, M. et al. (1994) *Nature* 369, 493-7.
3. Weber, E. et al. (1996) *J Biol Chem* 271, 6963-71.
4. Yaekura, K. et al. (2003) *J Biol Chem* 278, 9715-21.
5. Johannes, L. et al. (1994) *EMBO J* 13, 2029-37.
6. Geppert, M. et al. (1997) *Nature* 387, 810-4.
7. Leenders, A.G. et al. (2001) *Mol Biol Cell* 12, 3095-102.
8. Coppola, T. et al. (2001) *J Cell Sci* 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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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