Revision 1

#13099 Store at -20C

Rab1A (D5F8M) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R	Endogenous	22	Rabbit IgG	#P62820	5861

Product Usage Information

Application	Dilution
Western Blotting	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

Rab1A (D5F8M) Rabbit mAb recognizes endogenous levels of total Rab1A protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys103 of human Rab1A protein.

Background

Ras-related protein Rab1A (Rab1A) is a member of the Ras superfamily of cellular G proteins that function in protein transport and membrane restructuring (1). Early immunofluorescence studies determined that Rab1A localizes to a region between the endoplasmic reticulum (ER) and the Golgi complex, and in early Golgi compartments (2). Rab1A binds and recruits the COPII complex tethering factor p115 to a cis-SNARE complex associated with COPII-coated, budding vesicles on the endoplasmic reticulum (3). A Rab1 effector complex containing several proteins, including the cis-Golgi tethering protein GM130 and the stacking protein GRASP65, is essential for targeting and fusion of COPII-coated vesicles with the Golgi complex (4). Rab1A also interacts with the golgin tethering and docking proteins giantin (GOLGB1) and golgin-84 to regulate Golgi structure formation and function (5,6). Thus, Rab1A plays an important role in mediating the export of newly synthesized target proteins from ER to the Golgi. As with other Rab proteins, Rab1A function requires an intrinsic GTPase cycling activity facilitated by associated GEF and GAP factors (7-9). In addition to mediating ER to Golgi transport, Rab1A is also involved in autophagy during early autophagosome formation (10,11).

Background References

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3. Allan, B.B. et al. (2000) *Science* 289, 444-8.
4. Moyer, B.D. et al. (2001) *Traffic* 2, 268-76.
5. Koreishi, M. et al. (2013) *PLoS One* 8, e59821.
6. Satoh, A. et al. (2003) *Traffic* 4, 153-61.
7. Nuoffer, C. et al. (1994) *J Cell Biol* 125, 225-37.
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9. Haas, A.K. et al. (2007) *J Cell Sci* 120, 2997-3010.
10. Huang, J. et al. (2011) *Autophagy* 7, 17-26.
11. Lipatova, Z. et al. (2013) *Mol Biol Cell* , .

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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