Revision 1

#13466 Store at -20C

Sec31A (D1G7I) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IF-IC	H M R Mk	Endogenous	95-140	Rabbit IgG	#O94979	22872

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:400

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

Sec31A (D1G7I) Rabbit mAb recognizes endogenous levels of total Sec31A protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser86 of human Sec31A protein.

Background

The coat protein complex II (COPII) is composed of five cytosolic proteins and includes the Sec23/24 complex, the Sec13/31 complex, and Sar1. The COPII coat is located at the ER/Golgi interface and is involved in transport of newly synthesized proteins from the ER to the Golgi apparatus (1). COPII formation is initiated through the binding of the activated G protein, Sar1, to the Sec23/24 complex to form a pre-budding complex that directly binds target molecules (1-3). This pre-budding complex further recruits Sec13/31 to form mature COPII coat (4,5). The Sec31 subunit of COPII coat interacts with Sec13 at the ER exit and is required for both vesicle formation and ER-Golgi transport. Two isoforms of human Sec31 have been identified, Sec31A and Sec31B, which share a sequence homology of 47.3% (6-8). Sec31A is ubiquitously expressed in tissues and organs, whereas Sec31B is enriched in brain and testis (7,8). In classical Hodgkin lymphoma, a novel fusion of Jak2 with Sec31A renders Jak2 constitutively active and subject to Jak2 inhibitor effects (9).

Background References

1. Aridor, M. et al. (1998) *J Cell Biol* 141, 61-70.
2. Miller, E.A. et al. (2003) *Cell* 114, 497-509.
3. Mossessova, E. et al. (2003) *Cell* 114, 483-95.
4. Barlowe, C. et al. (1994) *Cell* 77, 895-907.
5. Bi, X. et al. (2007) *Dev Cell* 13, 635-45.
6. Shugrue, C.A. et al. (1999) *J Cell Sci* 112 (Pt 24), 4547-56.
7. Tang, B.L. et al. (2000) *J Biol Chem* 275, 13597-604.
8. Stankewich, M.C. et al. (2006) *J Cell Sci* 119, 958-69.
9. Van Roosbroeck, K. et al. (2011) *Blood* 117, 4056-64.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

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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