Revision 1

Store at -20C

#8506

Sec31A Antibody

Cell Signaling TECHNOLOGY®

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

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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

Sec31A Antibody recognizes endogenous levels of multiple isoforms of total Sec31A protein, ranging in sizes of 95-140 kDa.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro810 of human Sec31A protein. Antibodies are purified by protein A and peptide affinity chromatography.

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).
Multiple isoforms of Sec31A protein have been reported (10).

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.
10. Townley, A.K. et al. (2008) *J Cell Sci* 121, 3025-34.

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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **R:** Rat **Mk:** Monkey

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