Revision 1

#9610 Store at -20C

Sec24D Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M Mk	Endogenous	115	Rabbit	#O94855	9871

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Sec24D Antibody recognizes endogenous levels of total Sec24D protein. This antibody does not cross-react with other members of the Sec24 family.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro80 of human Sec24D protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Coat Protein Complex II (COPII) is composed of five cytosolic proteins: Sec23/24 complex, Sec13/31 complex, and Sar1. 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, thereby forming a prebudding complex that directly binds target molecules (1-3). The prebudding complex further recruits Sec13/31 to form mature COPII coat (4,5). The Sec24 subunit of COPII coat is thought to play a critical role in cargo selection (2,6). It binds directly to cargo proteins at the ER and brings them to COPII vesicles through interaction with Sec23. There are four Sec24 isoforms in human cells: Sec24A, Sec24B, Sec24C, and Sec24D (7). In mice, mutations in Sec24B have been linked to developmental defects (8,9). Sec24bB has also been identified as a novel regulator of ferroptosis in microglia which can contribute to neurodegeneration (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. Miller, E. et al. (2002) *EMBO J* 21, 6105-13.
7. Tang, B.L. et al. (1999) *Biochem Biophys Res Commun* 258, 679-84.
8. Merte, J. et al. (2010) *Nat Cell Biol* 12, 41-6; sup pp 1-8.
9. Wansleeben, C. et al. (2010) *Development* 137, 1067-73.
10. Ryan, S.K. et al. (2023) *Nat Neurosci* 26, 12-26.

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 **Mk:** Monkey

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Limited Uses

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