

LMAN1 (E2B6H) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	53	Rabbit IgG	#P49257	3998

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

LMAN1 (E2B6H) Rabbit mAb recognizes endogenous levels of total LMAN1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu366 of human LMAN1 protein.

Background

Mannose-binding lectin-1 (LMAN1, ERGIC-53) is a type I transmembrane lectin protein localized to the intermediate compartment between the endoplasmic reticulum and the Golgi body (ERGIC) (1). Interaction between the LMAN1 protein and MCFD2 forms an ERGIC cargo receptor that delivers proteins from the ER to the Golgi body (2,3). The LMAN1 protein contains an amino-terminal carbohydrate recognition domain (CRD) that binds target glycoproteins, a membrane proximal oligomerization domain required for cargo transport, a single transmembrane segment, and short cytoplasmic tail (3-5). LMAN1 functions as a cargo receptor responsible for transport of glycoproteins from the ER to ERGIC and Golgi body. Target proteins include coagulation factors V and VIII, cathepsin C, cathepsin Z, and α1-antitrypsin (6-8). Mutations in the corresponding *LMAN1* gene can result in combined factors FV and FVIII deficiency, an autosomal recessive disorder characterized by spontaneous bleeding (9). Inactivating frameshift mutations in *LMAN1* are found at high frequency in colorectal tumors with microsatellite instability and may contribute to tumorigenesis (10).

Background References

1. Vollenweider, F. et al. (1998) *J Cell Biol* 142, 377-89.
2. Appenzeller, C. et al. (1999) *Nat Cell Biol* 1, 330-4.
3. Zheng, C. et al. (2010) *Blood* 116, 5698-706.
4. Lahtinen, U. et al. (1999) *Eur J Biochem* 260, 392-7.
5. Velloso, L.M. et al. (2002) *J Biol Chem* 277, 15979-84.
6. Khoriaty, R. et al. (2012) *Blood* 120, 31-8.
7. Nyfeler, B. et al. (2008) *J Cell Biol* 180, 705-12.
8. Appenzeller-Herzog, C. et al. (2005) *Mol Biol Cell* 16, 1258-67.
9. Nichols, W.C. et al. (1998) *Cell* 93, 61-70.
10. Roeckel, N. et al. (2009) *Cancer Res* 69, 292-9.

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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