SANTA CRUZ BIOTECHNOLOGY, INC.

ERGIC-53 (F-3): sc-398777

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Lectin mannose-binding 1, also designated vesicular integral-membrane protein (VIP36) and lectin mannose-binding 2, also designated ER-Golgi intermediate compartment (ERGIC-53) comprise a family of membrane-bound, ubiquitous proteins involved in the selective transport of newly synthesized glycoproteins from the endoplasmic reticulum (ER) to the ER-Golgi intermediate compartment (ERGIC). VIP36 acts as an intracellular lectin in the early secretory pathway. It is involved in the sorting and transport of glycoproteins carrying high mannose-type glycans. ERGIC-53, a mannose-specific lectin, recognizes sugar residues of glycoproteins and glycolipids. It mediates the sorting and recycling of proteins and/or lipids. Null expression of ERGIC-53, also designated LMAN1, results in a rare autosomal recessive bleeding disorder that causes combined deficiency of both coagulation factors V and VIII.

REFERENCES

1. Schindler, R., et al. 1993. ERGIC-53, a membrane protein of the ER-Golgi intermediate compartment, carries an ER retention motif. Eur. J. Cell Biol. 61: 1-9.
2. Kappeler, F., et al. 1994. A dual role for COOH-terminal lysine residues in pre-Golgi retention and endocytosis of ERGIC-53. J. Biol. Chem. 269: 6279-6281.

CHROMOSOMAL LOCATION

Genetic locus: LMAN1 (human) mapping to 18q21.32; Lman1 (mouse) mapping to 18 E1.

SOURCE

ERGIC-53 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-91 near the N-terminus of ERGIC-53 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ERGIC-53 (F-3) is available conjugated to agarose (sc-398777 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398777 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398777 PE), fluorescein (sc-398777 FITC), Alexa Fluor® 488 (sc-398777 AF488), Alexa Fluor® 546 (sc-398777 AF546), Alexa Fluor® 594 (sc-398777 AF594) or Alexa Fluor® 647 (sc-398777 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398777 AF680) or Alexa Fluor® 790 (sc-398777 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398777 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

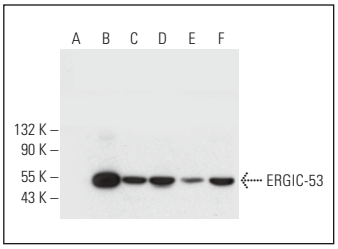
ERGIC-53 (F-3) is recommended for detection of ERGIC-53 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ERGIC-53 siRNA (h): sc-45246, ERGIC-53 siRNA (m): sc-45247, ERGIC-53 shRNA Plasmid (h): sc-45246-SH, ERGIC-53 shRNA Plasmid (m): sc-45247-SH, ERGIC-53 shRNA (h) Lentiviral Particles: sc-45246-V and ERGIC-53 shRNA (m) Lentiviral Particles: sc-45247-V.

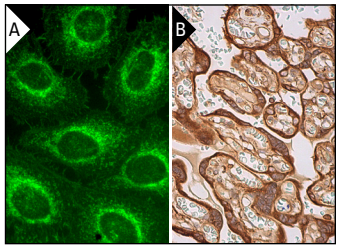
Molecular Weight of ERGIC-53: 53 kDa.

Positive Controls: ERGIC-53 (h): 293T Lysate: sc-114897.

DATA



ERGIC-53 (F-3): sc-398777. Western blot analysis of ERGIC-53 expression in non-transfected 293T: sc-117752 (**A**), human ERGIC-53 transfected 293T: sc-114897 (**B**), HeLa (**C**), Hep G2 (**D**), A549 (**E**) and Jurkat (**F**) whole cell lysates.



ERGIC-53 (F-3): sc-398777. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Gao, Y., et al. 2016. Golgi-associated LC3 lipidation requires V-ATPase in noncanonical autophagy. Cell Death Dis. 7: e2330.
2. Mészáros, I., et al. 2018. Cellular localisation of the proteins of region 3 of feline enteric coronavirus. Acta Vet. Hung. 66: 493-508.
3. Miserey-Lenkei, S., et al. 2021. A comprehensive library of fluorescent constructs of SARS-CoV-2 proteins and their initial characterization in different cell types. Biol. Cell 113: 311-328.
4. Huang, W.R., et al. 2022. p17-modulated Hsp90/Cdc37 complex governs oncolytic avian reovirus replication by chaperoning p17, which promotes viral protein synthesis and accumulation of viral proteins σC and σA in viral factories. J. Virol. 96: e0007422.
5. Nalbach, K., et al. 2023. Spatial proteomics reveals secretory pathway disturbances caused by neuropathy-associated TECPR2. Nat. Commun. 14: 870.

RESEARCH USE

For research use only, not for use in diagnostic procedures.