SANTA CRUZ BIOTECHNOLOGY, INC.

ERGIC-53 (B-9): sc-271517

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.

CHROMOSOMAL LOCATION

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

SOURCE

ERGIC-53 (B-9) is a mouse monoclonal antibody raised against amino acids 266-510 mapping at the C-terminus of ERGIC-53 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

ERGIC-53 (B-9) 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) 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.

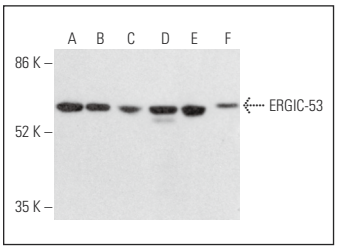
Molecular Weight of ERGIC-53: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

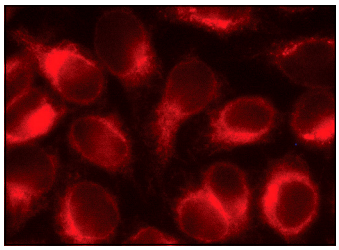
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ERGIC-53 (B-9): sc-271517. Western blot analysis of ERGIC-53 expression in HeLa (**A**), Hep G2 (**B**), A549 (**C**), Jurkat (**D**), JAR (**E**) and NIH/3T3 (**F**) whole cell lysates.



ERGIC-53 (B-9): sc-271517. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kukushkin, N.V., et al. 2011. Demonstration that endoplasmic reticulum-associated degradation of glycoproteins can occur downstream of processing by endomannosidase. Biochem. J. 438: 133-142.
2. Zhang, R., et al. 2014. The ORF4a protein of human coronavirus 229E functions as a viroporin that regulates viral production. Biochim. Biophys. Acta 1838: 1088-1095.
3. Kortvely, E., et al. 2016. The unconventional secretion of ARMS2. Hum. Mol. Genet. 25: 3143-3151.
4. Karanasios, E., et al. 2016. Autophagy initiation by ULK complex assembly on ER tubulovesicular regions marked by ATG9 vesicles. Nat. Commun. 7: 12420.
5. Czogalla, K.J., et al. 2018. VKORC1 and VKORC1L1 have distinctly different oral anticoagulant dose-response characteristics and binding sites. Blood Adv. 2: 691-702.
6. Chu, T.T., et al. 2021. Tonic prime-boost of STING signalling mediates Niemann-Pick disease type C. Nature 596: 570-575.

RESEARCH USE

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

CONJUGATES

See **ERGIC-53 (F-3): sc-398777** for ERGIC-53 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.