

Ribophorin I (E-7): sc-48367

BACKGROUND

Membrane proteins of the endoplasmic reticulum (ER) may be localized by mechanisms that involve retention, retrieval or a combination of both. ER localization information has been found in cytoplasmic, transmembrane or luminal domains. Specific retrieval mechanisms have been identified for luminal ER proteins, which contain a KDEL domain, and for type I transmembrane proteins carrying a dilysine motif. Mammalian oligosaccharyltransferase (OST) is a protein complex that is composed of four rough ER-specific, type I transmembrane proteins: Ribophorins I and II (RI and RII), OST48 and DAD1 (also designated defender against apoptotic death). The Ribophorins are integral membrane glycoproteins that localize exclusively to the rough ER. There is affinity between the cytoplasmically located N-terminal region of DAD1 and the short cytoplasmic tail of OST48 to place DAD1 firmly into the OST complex. The OST complex affects the cotranslational N-glycosylation of newly synthesized polypeptides.

REFERENCES

1. Silberstein, S., et al. 1992. The 48-kDa subunit of the mammalian oligosaccharyltransferase complex is homologous to the essential yeast protein WBP1. *J. Biol. Chem.* 267: 23658-23663.
2. Fu, J., et al. 1997. Interactions among subunits of the oligosaccharyltransferase complex. *J. Biol. Chem.* 272: 29687-29692.
3. Kelleher, D.J. and Gilmore, R. 1997. DAD1, the defender against apoptotic cell death, is a subunit of the mammalian oligosaccharyltransferase. *Proc. Natl. Acad. Sci. USA* 94: 4994-4999.

CHROMOSOMAL LOCATION

Genetic locus: RPN1 (human) mapping to 3q21.3; Rpn1 (mouse) mapping to 6 D1.

SOURCE

Ribophorin I (E-7) is a mouse monoclonal antibody raised against amino acids 558-607 of Ribophorin I of human origin.

PRODUCT

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

Ribophorin I (E-7) is available conjugated to agarose (sc-48367 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48367 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48367 PE), fluorescein (sc-48367 FITC), Alexa Fluor® 488 (sc-48367 AF488), Alexa Fluor® 546 (sc-48367 AF546), Alexa Fluor® 594 (sc-48367 AF594) or Alexa Fluor® 647 (sc-48367 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48367 AF680) or Alexa Fluor® 790 (sc-48367 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Ribophorin I (E-7) is recommended for detection of Ribophorin I of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range), 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).

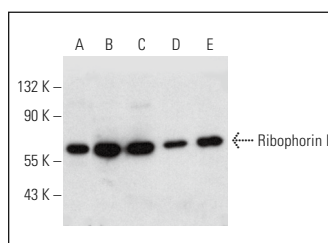
Ribophorin I (E-7) is also recommended for detection of Ribophorin I in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Ribophorin I siRNA (h): sc-36420, Ribophorin I siRNA (m): sc-36421, Ribophorin I shRNA Plasmid (h): sc-36420-SH, Ribophorin I shRNA Plasmid (m): sc-36421-SH, Ribophorin I shRNA (h) Lentiviral Particles: sc-36420-V and Ribophorin I shRNA (m) Lentiviral Particles: sc-36421-V.

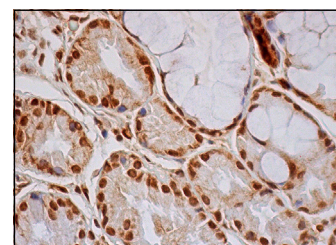
Molecular Weight of Ribophorin I: 63 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, Hep G2 cell lysate: sc-2227 or C6 whole cell lysate: sc-364373.

DATA



Ribophorin I (E-7): sc-48367. Western blot analysis of Ribophorin I expression in Hep G2 (A), Neuro-2A (B), RAW 264.7 (C), C6 (D) and PC-12 (E) whole cell lysates.



Ribophorin I (E-7): sc-48367. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Liu, B., et al. 2012. Proteomic identification of common SCF ubiquitin ligase FBXO6-interacting glycoproteins in three kinds of cells. *J. Proteome Res.* 11: 1773-1781.
2. Xu, C., et al. 2020. N-glycosylated SGK196 suppresses the metastasis of basal-like breast cancer cells. *Oncogenesis* 9: 4.
3. Kas, S.M., et al. 2023. Functional classification of DDOST variants of uncertain clinical significance in congenital disorders of glycosylation. *Sci. Rep.* 13: 17648.
4. Hwang, H.J., et al. 2025. Therapy-induced senescent cancer cells contribute to cancer progression by promoting ribophorin 1-dependent PD-L1 upregulation. *Nat. Commun.* 16: 353.

RESEARCH USE

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