

Ribophorin I (H-50): sc-25559

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. The 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 endoplasmic reticulum. 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 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., et al. 1997. DAD1, the defender against apoptotic cell death, is a subunit of the mammalian oligosaccharyltransferase. *Proc. Natl. Acad. Sci. USA* 94: 4994-4999.
4. Sanjay, A., et al. 1998. DAD1 is required for the function and the structural integrity of the oligosaccharyltransferase complex. *J. Biol. Chem.* 273: 26094-26099.
5. Fu, J., et al. 2000. Localization of Ribophorin II to the endoplasmic reticulum involves both its transmembrane and cytoplasmic domains. *Eur. J. Cell Biol.* 79: 219-228.
6. Fu, J., et al. 2000. Retention of subunits of the oligosaccharyltransferase complex in the endoplasmic reticulum. *J. Biol. Chem.* 275: 3984-3990.

CHROMOSOMAL LOCATION

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

SOURCE

Ribophorin I (H-50) is a rabbit polyclonal antibody raised against amino acids 558-607 of Ribophorin I of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

APPLICATIONS

Ribophorin I (H-50) is recommended for detection of Ribophorin I of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

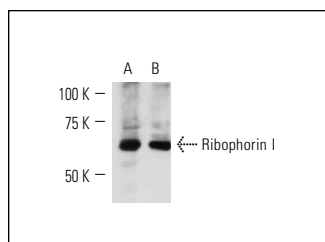
Ribophorin I (H-50) is also recommended for detection of Ribophorin I in additional species, including equine, canine, bovine, porcine and avian.

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.

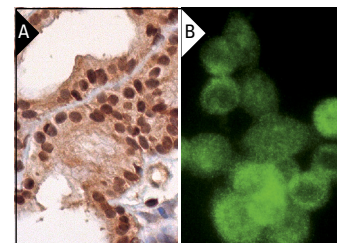
Molecular Weight of Ribophorin I: 63 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

DATA



Ribophorin I (H-50): sc-25559. Western blot analysis of Ribophorin I expression in KNRK (A) and NIH/3T3 (B) whole cell lysates.



Ribophorin I (H-50): sc-25559. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic and nuclear staining of glandular cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Hyun, D.H., et al. 2006. Calorie restriction up-regulates the plasma membrane redox system in brain cells and suppresses oxidative stress during aging. *Proc. Natl. Acad. Sci. USA* 103: 19908-19912.

RESEARCH USE

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



Try **Ribophorin I (E-7): sc-48367**, our highly recommended monoclonal alternative to Ribophorin I (H-50).