SANTA CRUZ BIOTECHNOLOGY, INC.

DAD1 (FL-113): sc-25557

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., Kelleher, D.J. and Gilmore, R. 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., Ren, M. and Kreibich, G. 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.
4. Sanjay, A., Fu, J. and Kreibich, G. 1998. DAD1 is required for the function and the structural integrity of the oligosaccharyltransferase complex. J. Biol. Chem. 273: 26094-26099.
5. Fu, J., Pirozzi, G., Sanjay, A., Levy, R., Chen, Y., De Lemos-Chiarandini, C., Sabatini, D. and Kreibich, G. 2000. Localization of Ribophorin II to the endoplasmic reticulum involves both its transmembrane and cytoplasmic domains. Eur. J. Cell Biol. 79: 219-228.

CHROMOSOMAL LOCATION

Genetic locus: DAD1 (human) mapping to 14q11.2; Dad1 (mouse) mapping to 14 C2.

SOURCE

DAD1 (FL-113) is a rabbit polyclonal antibody raised against amino acids 1-113 representing full length DAD1 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

DAD1 (FL-113) is recommended for detection of DAD1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DAD1 (FL-113) is also recommended for detection of DAD1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DAD1 siRNA (h): sc-40786, DAD1 siRNA (m): sc-40787, DAD1 shRNA Plasmid (h): sc-40786-SH, DAD1 shRNA Plasmid (m): sc-40787-SH, DAD1 shRNA (h) Lentiviral Particles: sc-40786-V and DAD1 shRNA (m) Lentiviral Particles: sc-40787-V.

Molecular Weight of DAD1: 12.5 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kulke, M.H., Freed, E., Chiang, D.Y., Philips, J., Zahrieh, D., Glickman, J.N., Shivdasani, R.A. 2008. High-resolution analysis of genetic alterations in small bowel carcinoid tumors reveals areas of recurrent amplification and loss. Genes Chromosomes Cancer 47: 591-603.

RESEARCH USE

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

PROTOCOLS

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