



Smt3 (yN-14): sc-11845

BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. The primary function of ubiquitin in mammalian systems is to clear abnormal, foreign, and improperly folded proteins by targeting them for proteasome degradation. In *Saccharomyces cerevisiae*, ubiquitin-like proteins include Rub1, Ula1, Uba3, Smt3, Ubc2, Ubc12 and Ubc9. Rub1 shares 53% homology with ubiquitin and requires activation via Ula1, Uba3 and Ubc12 in order to conjugate to substrates directed to different proteolytic systems. Smt3, which is similar to mammalian SUMO-1, requires Ubc9 for conjugation to other proteins. Skp1 connects cell cycle regulators to the ubiquitin proteolysis machinery. Hrt1 is an essential subunit of Skp1p-cullin-F-box (SCF) complexes, which are necessary for the degradation of various regulatory proteins. Ubc13 forms a complex with Mms2 that is involved in the error-free DNA postreplication repair (PRR) pathway.

REFERENCES

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3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. *Curr. Opin. Cell Biol.* 7: 215-223.
4. Bai, C., Sen, P., Hofmann, K., Ma, L., Goebel, M., Harper, J.W., and Elledge, S.J. 1996. Skp1 connects cell cycle regulators to the ubiquitin proteolysis machinery through a novel motif, the F-box. *Cell* 86: 263-274.
5. Liakopoulos, D., Doenges, G., Matuschewski, K., and Jentsch, S. 1998. A novel protein modification pathway related to the ubiquitin system. *EMBO J.* 17: 2208-2214.
6. Schwarz, S.E., Matuschewski, K., Liakopoulos, D., Scheffner, M., and Jentsch, S. 1998. The ubiquitin-like proteins Smt3 and SUMO-1 are conjugated by the Ubc9 E2 enzyme. *Proc. Natl. Acad. Sci. USA* 95: 560-564.
7. Gong, L. and Yeh, E.T. 1999. Identification of the activating and conjugating enzymes of the NEDD8 conjugation pathway. *J. Biol. Chem.* 274: 12036-12042.
8. Raboy, B., Marom, A., Dor, Y., and Kulka, R.G. 1999. Heat-induced cell cycle arrest of *Saccharomyces cerevisiae*: involvement of the Rad6/Ubc2 and WSC2 genes in its reversal. *Mol. Microbiol.* 32: 729-739.
9. Blondel, M., Galan, J.M., and Peter, M. 2000. Isolation and characterization of Hrt1 using a genetic screen for mutants unable to degrade Gic2p in *Saccharomyces cerevisiae*. *Genetics* 155: 1033-1044.

STORAGE

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

SOURCE

Smt3 (yN-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Smt3 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11845 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Smt3 (yN-14) is recommended for detection of Smt3 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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.

SELECT PRODUCT CITATIONS

1. Zavec, A.B., et al. 2008. Ecm11 protein of yeast *Saccharomyces cerevisiae* is regulated by sumoylation during meiosis. *FEMS Yeast Res.* 8: 64-70.

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.