SANTA CRUZ BIOTECHNOLOGY, INC.

Ubc2 (yA-16): sc-10483

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 proteosome 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 the error-free DNA postreplication repair (PRR) pathway.

REFERENCES

1. Ciechanover, A. 1994. The ubiquitin-proteasome proteolytic pathway. Cell 79: 13-21.
2. Ciechanover, A. and Schwartz, A.L. 1994. The ubiquitin-mediated proteolytic pathway: mechanisms of recognition of the proteolytic substrate and involvement in the degradation of native cellular proteins. FASEB J. 8: 182-191.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. Curr. Opin. Cell Biol. 7: 215-223.
4. Bai, C., et al. 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., et al. 1998. A novel protein modification pathway related to the ubiquitin system. EMBO J. 17: 2208-2214.
6. Schwarz, S.E., et al. 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., et al. 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. Brusky, J., et al. 2000. Ubc13, a DNA-damage-inducible gene, is a member of the error-free postreplication repair pathway in *Saccharomyces cerevisiae*. Curr. Genet. 37: 168-174.

CHROMOSOMAL LOCATION

Genetic locus: UBE2A (human) mapping to Xq24-q25; Ube2a (mouse) mapping to X A3.2.

SOURCE

Ubc2 (yA-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Ubc2 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-10483 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ubc2 (yA-16) is recommended for detection of Ubc2 of *Saccaromyces 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. Miyase, S., et al. 2005. Differential regulation of Rad18 through Rad6-dependent mono- and polyubiquitination. J. Biol. Chem. 280: 515-524.

STORAGE

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

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.