SANTA CRUZ BIOTECHNOLOGY, INC.

Urm1 (H-78): sc-292073

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The Power to Question

BACKGROUND

Ubiquitin (Ub) is among the most phylogenetically conserved proteins known. The primary function of this small, 76 amino acid protein is to clear abnormal, foreign and improperly folded proteins by targeting them for degradation by the 26S proteosome. Many ubiquitin-like proteins function as post-translational protein modifiers, such as members of the SUMO protein family, however some ubiquitin-like proteins regulate protein-protein interactions and cell cycle events, thereby functioning outside of the traditional ubiquitination pathway. Urm1 (Ubiquitin-related modifier 1 homolog) is a 101 amino acid protein that primarily functions in the post-translational modification of proteins by way of the urmylation pathway. In studies with *Saccharomyces cerevisiae*, it has been found that Urm1 covalently binds to its E1 activating enzyme, Uba4p, to conjugate alkyl hydroperoxide reductase (Ahp1). It is hypothesized that this complex may then play a role in the oxidative-stress response in mammals.

REFERENCES

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3. Goehring, A.S., et al. 2003. Attachment of the ubiquitin-related protein Urm1p to the antioxidant protein Ahp1p. Eukaryotic Cell. 2: 930-936.
4. Goehring, A.S., et al. 2003. Urmylation: a ubiquitin-like pathway that functions during invasive growth and budding in yeast. Mol. Biol. Cell. 14: 4329-4341.
5. Yang, X.Y., et al. 2005. Identification of differentially expressed genes in metastatic and non-metastatic nasopharyngeal carcinoma cells by suppression subtractive hybridization. Cell. Oncol. 27: 215-223.
6. Singh, S., et al. 2005. Three-dimensional structure of the AAH26994.1 protein from *Mus musculus*, a putative eukaryotic Urm1. Protein Sci. 14: 2095-2102.
7. Xu, J., et al. 2006. Solution structure of Urm1 and its implications for the origin of protein modifiers. Proc. Natl. Acad. Sci. USA 103: 11625-11630.
8. Yu, J. and Zhou, C.Z. 2008. Crystal structure of the dimeric Urm1 from the yeast *Saccharomyces cerevisiae*. Proteins. 71: 1050-1055.

CHROMOSOMAL LOCATION

Genetic locus: URM1 (human) mapping to 9q34.11; Urm1 (mouse) mapping to 2 B.

SOURCE

Urm1 (H-78) is a rabbit polyclonal antibody raised against amino acids 24-101 mapping at the C-terminus of Urm1 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.

APPLICATIONS

Urm1 (H-78) is recommended for detection of Urm1 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).

Urm1 (H-78) is also recommended for detection of Urm1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Urm1 siRNA (h): sc-92844, Urm1 siRNA (m): sc-154935, Urm1 shRNA Plasmid (h): sc-92844-SH, Urm1 shRNA Plasmid (m): sc-154935-SH, Urm1 shRNA (h) Lentiviral Particles: sc-92844-V and Urm1 shRNA (m) Lentiviral Particles: sc-154935-V.

Molecular Weight of Urm1: 12 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.

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.