SANTA CRUZ BIOTECHNOLOGY, INC.

Urm1 (A-7): sc-374485

SANTA CRUZ BIOTECHNOLOGY

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

1. Hochstrasser, M. 2000. Evolution and function of ubiquitin-like protein-con-jugation systems. Nat. Cell Biol. 2: E153-E157.
2. Hochstrasser, M. 2000. Biochemistry. All in the ubiquitin family. Science 289: 563-564.
3. Goehring, A.S., et al. 2003. Attachment of the ubiquitin-related protein Urm1p to the antioxidant protein Ahp1p. Eukaryot. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Urm1 (A-7) is a mouse monoclonal antibody raised against a peptide mapping near the N-terminus of Urm1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Urm1 (A-7) is available conjugated to agarose (sc-374485 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374485 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374485 PE), fluorescein (sc-374485 FITC), Alexa Fluor® 488 (sc-374485 AF488), Alexa Fluor® 546 (sc-374485 AF546), Alexa Fluor® 594 (sc-374485 AF594) or Alexa Fluor® 647 (sc-374485 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374485 AF680) or Alexa Fluor® 790 (sc-374485 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Urm1 (A-7) is recommended for detection of Urm1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

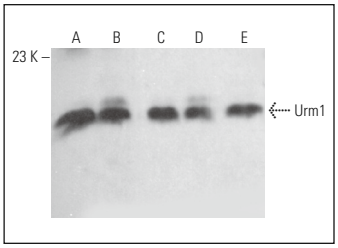
Molecular Weight of Urm1: 12 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, M1 whole cell lysate: sc-364782 or T-47D cell lysate: sc-2293.

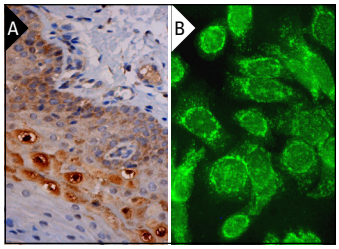
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Urm1 (A-7): sc-374485. Western blot analysis of Urm1 expression in T-47D (**A**), c4 (**B**), M1 (**C**), MH-S (**D**) and P19 (**E**) whole cell lysates.



Urm1 (A-7): sc-374485. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic vesicles and nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. El-Hajjar, L., et al. 2023. Ubiquitin-related modifier 1 (URM-1) modulates Cx43 in breast cancer cell lines. Int. J. Mol. Sci. 24: 2958.

RESEARCH USE

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