SANTA CRUZ BIOTECHNOLOGY, INC.

Ubp-M (B-3): sc-390683

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ubiquitin-processing protease-M (Ubp-M) belongs to a family of enzymes that regulate the degradation of ubiquitinated proteins by deubiquitination. Ubiquitin-mediated proteolysis requires the transfer of ubiquitin chains to lysine groups on selected cellular proteins, which then potentiates the proteolytic degradation of these conjugated substrates by the 26S Proteasome. Ubps, which are also designated deubiquitinating enzymes (DUBs), regulate growth activity and differentiation. Ubp-M is localized to the cytosol and is phosphorylated during the G_2/M phase transition through the completion of mitosis. This phosphorylation state coincides with an accumulation of free ubiquitin chains within the cell and an increased hydrolysis of ubiquitin conjugated proteins. Targets of Ubp-M include the histone proteins H2A and H2B, which are monoubiquitinated during interphase and anaphase and are deubuiquitinated during mitoisis. This deubiquitination of the histone proteins correlates to the condensation of the mitotic chromatin, indicating that Ubp-M influences histone function and, thereby, facilitates the organization of mitotic chromatin and directs the progression of cell growth.

REFERENCES

1. Goldknopf, I.L., et al. 1975. Isolation and characterization of protein A24, a "histone-like" non-histone chromosomal protein. J. Biol. Chem. 250: 7182-7187.
2. Hecht, A., et al. 1995. Histone H3 and H4 N-termini interact with SIR3 and SIR4 proteins: a molecular model for the formation of heterochromatin in yeast. Cell 80: 583-592.

CHROMOSOMAL LOCATION

Genetic locus: USP16 (human) mapping to 21q21.3; Usp16 (mouse) mapping to 16 C3.3.

SOURCE

Ubp-M (B-3) is a mouse monoclonal antibody raised against amino acids 757-813 mapping near the C-terminus of Ubp-M 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.

Ubp-M (B-3) is available conjugated to agarose (sc-390683 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390683 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390683 PE), fluorescein (sc-390683 FITC), Alexa Fluor® 488 (sc-390683 AF488), Alexa Fluor® 546 (sc-390683 AF546), Alexa Fluor® 594 (sc-390683 AF594) or Alexa Fluor® 647 (sc-390683 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390683 AF680) or Alexa Fluor® 790 (sc-390683 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

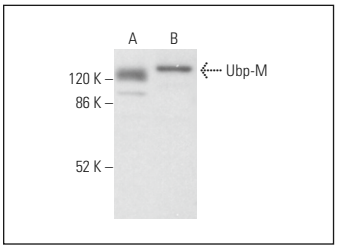
Ubp-M (B-3) is recommended for detection of Ubp-M of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Ubp-M siRNA (h): sc-41687, Ubp-M siRNA (m): sc-154870, Ubp-M shRNA Plasmid (h): sc-41687-SH, Ubp-M shRNA Plasmid (m): sc-154870-SH, Ubp-M shRNA (h) Lentiviral Particles: sc-41687-V and Ubp-M shRNA (m) Lentiviral Particles: sc-154870-V.

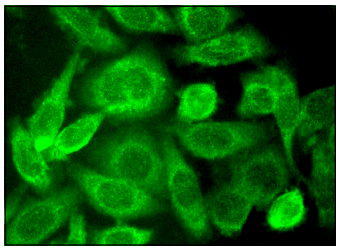
Molecular Weight of Ubp-M isoforms: 94/92/58/47 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Neuro-2A whole cell lysate: sc-364185.

DATA



Ubp-M (B-3): sc-390683. Western blot analysis of Ubp-M expression in HeLa (**A**) and Neuro-2A (**B**) whole cell lysates.



Ubp-M (B-3): sc-390683. Immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Long, C., et al. 2018. LPS promotes HBO1 stability via USP25 to modulate inflammatory gene transcription in THP-1 cells. Biochim. Biophys. Acta Gene Regul. Mech. 1861: 773-782.
2. Yu, J.S., et al. 2021. Substrate-specific recognition of IKKs mediated by USP16 facilitates autoimmune inflammation. Sci. Adv. 7: eabc4009.
3. Zhang, X., et al. 2024. Stress granule-localized USP8 potentiates cGAS-mediated type I interferonopathies through deubiquitination of DDX3X. Cell Rep. 43: 114248.

RESEARCH USE

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

PROTOCOLS

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