SANTA CRUZ BIOTECHNOLOGY, INC.

Ubiquitin (F-11): sc-271289

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Ubiquitin (Ub) is among the most phylogenetically conserved proteins known. The primary function of Ubiquitin is to clear abnormal, foreign and improperly folded proteins by targeting them for degradation by the 26S Proteosome. This small, 76 amino acid protein can be covalently attached to cellular proteins via an isopeptide linkage between the carboxy terminal group of Ubiquitin and lysine amino groups on the acceptor protein. For proteolysis to occur, Ubiquitin oligomers must be assembled. Ubiquitin chains on proteolytic substrates are commonly found to have an isopeptide bridge between Lys 48 of one Ubiquitin molecule and the carboxy-terminus of a neighboring Ubiquitin molecule. Ubiquitin also plays a role in regulating signal transduction cascades through the elimination inhibitory proteins, such as IκB-α and p27.

SOURCE

Ubiquitin (F-11) is a mouse monoclonal antibody raised against amino acids 1-76 representing full length Ubiquitin 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.

Ubiquitin (F-11) is available conjugated to agarose (sc-271289 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271289 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271289 PE), fluorescein (sc-271289 FITC), Alexa Fluor® 488 (sc-271289 AF488), Alexa Fluor® 546 (sc-271289 AF546), Alexa Fluor® 594 (sc-271289 AF594) or Alexa Fluor® 647 (sc-271289 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271289 AF680) or Alexa Fluor® 790 (sc-271289 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Ubiquitin (F-11) is recommended for detection of Ubiquitin and polyubiquitin 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ubiquitin (F-11) is also recommended for detection of Ubiquitin and polyubiquitin in additional species, including equine, canine, bovine, porcine and avian.

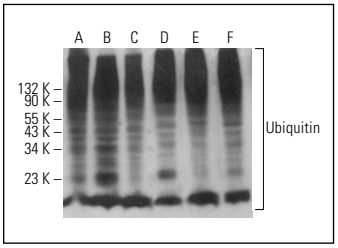
Suitable for use as control antibody for Ubiquitin siRNA (h): sc-29513, Ubiquitin siRNA (m): sc-36770, Ubiquitin shRNA Plasmid (h): sc-29513-SH, Ubiquitin shRNA Plasmid (m): sc-36770-SH, Ubiquitin shRNA (h) Lentiviral Particles: sc-29513-V and Ubiquitin shRNA (m) Lentiviral Particles: sc-36770-V.

Molecular Weight of Ubiquitin: 9 kDa.

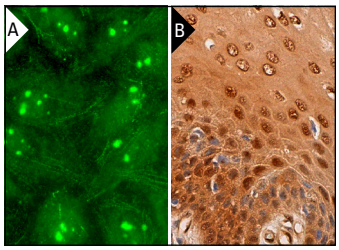
STORAGE

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

DATA



Ubiquitin (F-11): sc-271289. Western blot analysis of Ubiquitin expression in JAR (**A**), Jurkat (**B**), HeLa (**C**), MCF7 (**D**), KNRK (**E**) and A549 (**F**) whole cell lysates.



Ubiquitin (F-11): sc-271289. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Hu, S., et al. 2006. cIAP2 is a ubiquitin protein ligase for Bcl10 and is dysregulated in mucosa-associated lymphoid tissue lymphomas. J. Clin. Invest. 116: 174-181.
2. Guo, X. and Qi, X. 2017. VCP cooperates with UBXD1 to degrade mitochondrial outer membrane protein MCL1 in model of Huntington's disease. Biochim. Biophys. Acta 1863: 552-559.
3. Song, T., et al. 2018. CRL4 antagonizes SCF^{bxo7}-mediated turnover of cereblon and BK channel to regulate learning and memory. PLoS Genet. 14: e1007165.
4. Takeda, T., et al. 2019. Upregulation of IGF2R evades lysosomal dysfunction-induced apoptosis of cervical cancer cells via transport of cathepsins. Cell Death Dis. 10: 876.
5. Cunha-Silva, S., et al. 2020. Mps1-mediated release of Mad1 from nuclear pores ensures the fidelity of chromosome segregation. J. Cell Biol. 219: e201906039.
6. Zhang, Z., et al. 2021. Deubiquitinase USP5 promotes non-small cell lung cancer cell proliferation by stabilizing cyclin D1. Transl. Lung Cancer Res. 10: 3995-4011.
7. Saha, S., et al. 2022. Proteomic analysis reveals USP7 as a novel regulator of palmitic acid-induced hepatocellular carcinoma cell death. Cell Death Dis. 13: 563.
8. 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.
9. Sun, K., et al. 2024. USP30 promotes the progression of breast cancer by stabilising Snail. Cancer Gene Ther. 31: 472-483.

RESEARCH USE

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