

# Ubiquitin (A-5): sc-166553

## 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 Proteasome. 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 I $\kappa$ B- $\alpha$  and p27.

## SOURCE

Ubiquitin (A-5) is a mouse monoclonal antibody raised against amino acids 1-76 representing full length Ubiquitin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ubiquitin (A-5) is available conjugated to agarose (sc-166553 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166553 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166553 PE), fluorescein (sc-166553 FITC), Alexa Fluor® 488 (sc-166553 AF488), Alexa Fluor® 546 (sc-166553 AF546), Alexa Fluor® 594 (sc-166553 AF594) or Alexa Fluor® 647 (sc-166553 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166553 AF680) or Alexa Fluor® 790 (sc-166553 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Ubiquitin (A-5) 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  $\mu$ g per 100-500  $\mu$ g 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).

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.

Positive Controls: MCF7 whole cell lysate: sc-2206, Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

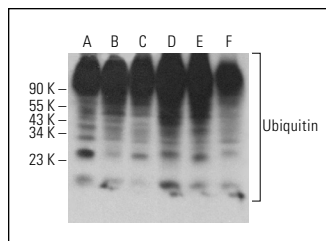
## STORAGE

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

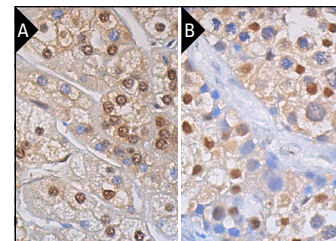
## RESEARCH USE

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

## DATA



Ubiquitin (A-5): sc-166553. Western blot analysis of Ubiquitin expression in Jurkat (A), MCF7 (B), A549 (C), PC-12 (D), JAR (E) and Hep G2 (F) whole cell lysates.



Ubiquitin (A-5) HRP: sc-166553 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear and cytoplasmic staining of glandular cells (A). Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts (B). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214.

## SELECT PRODUCT CITATIONS

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- Yao, K., et al. 2018. RSK2 is required for TRAF6 phosphorylation-mediated colon inflammation. Oncogene 37: 3501-3513.
- Fukui, S., et al. 2019. The proteasome deubiquitinase inhibitor bAP15 downregulates TGF- $\beta$ /Smad signaling and induces apoptosis via UCHL5 inhibition in ovarian cancer. Oncotarget 10: 5932-5948.
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- Zhou, Z., et al. 2023. DTX3L induced NLRP3 ubiquitination inhibit R28 cell pyroptosis in OGD/R injury. Biochim. Biophys. Acta Mol. Cell Res. 1870: 119433.
- Li, M., et al. 2024. Glucose deprivation triggers DCAF1-mediated inactivation of Rheb-mTORC1 and promotes cancer cell survival. Cell Death Dis. 15: 409.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.