

# Ub (P4D1): sc-8017



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 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 Lysine 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  $\text{I}\kappa\text{B-}\alpha$  and p27.

## SOURCE

Ub (P4D1) is a mouse monoclonal antibody raised against amino acids 1-76 representing full length Ub of bovine origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ub (P4D1) is available conjugated to agarose (sc-8017 AC), 500  $\mu\text{g}$ /0.25 ml agarose in 1 ml, for IP; to HRP (sc-8017 HRP), 200  $\mu\text{g}$ /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8017 PE), fluorescein (sc-8017 FITC), Alexa Fluor<sup>®</sup> 488 (sc-8017 AF488), Alexa Fluor<sup>®</sup> 546 (sc-8017 AF546), Alexa Fluor<sup>®</sup> 594 (sc-8017 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-8017 AF647), 200  $\mu\text{g}$ /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-8017 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-8017 AF790), 200  $\mu\text{g}$ /ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Ub (P4D1) is available conjugated to biotin (sc-8017 B), 200  $\mu\text{g}$ /ml, for WB, IHC(P) and ELISA; and to Alexa Fluor<sup>®</sup> 405 (sc-8017 AF405), 100  $\mu\text{g}$ /2 ml, for IF, IHC(P) and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

Ub (P4D1) is recommended for detection of ubiquitin, polyubiquitinated and ubiquitinated proteins of mouse, rat, human and *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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), flow cytometry (1  $\mu\text{g}$  per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

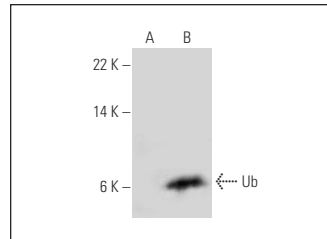
Molecular Weight of Ub: 9 kDa.

Positive Controls: Ub (h): 293T Lysate: sc-111402, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

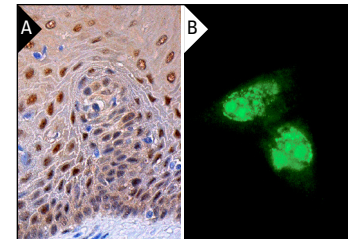
## RESEARCH USE

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

## DATA



Ub (P4D1): sc-8017. Western blot analysis of Ub expression in non-transfected: sc-117752 (A) and human Ub transfected: sc-111402 (B) 293T whole cell lysates.



Ub (P4D1) HRP: sc-8017 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (A). Ub (P4D1): sc-8017. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear accumulation of ubiquitinated proteins (B).

## SELECT PRODUCT CITATIONS

1. Trompouki, E., et al. 2003. CYLD is a deubiquitinating enzyme that negatively regulates NF $\kappa$ B activation by TNFR family members. *Nature* 424: 793-796.
2. Hishikawa, N., et al. 2003. Dofin localizes to the ubiquitylated inclusions in Parkinson's disease, dementia with Lewy bodies, multiple system atrophy, and amyotrophic lateral sclerosis. *Am. J. Pathol.* 163: 609-619.
3. Marambaud, P., et al. 2003. A CBP binding transcriptional repressor produced by the PS1/ $\epsilon$ -cleavage of N-cadherin is inhibited by PS1 FAD mutations. *Cell* 114: 635-645.
4. Kang, C. and Ji, L.L. 2016. PGC-1 $\alpha$  overexpression via local transfection attenuates mitophagy pathway in muscle disuse atrophy. *Free Radic. Biol. Med.* 93: 32-40.
5. Jing, H., et al. 2016. A SIRT2-selective inhibitor promotes c-Myc oncoprotein degradation and exhibits broad anticancer activity. *Cancer Cell* 29: 607.
6. Jin, H., et al. 2016. Scaffold protein FHL2 facilitates MDM2-mediated degradation of IER3 to regulate proliferation of cervical cancer cells. *Oncogene* 35: 5106-5118.
7. Naumann, C., et al. 2016. Generation of artificial N-end rule substrate proteins *in vivo* and *in vitro*. *Methods Mol. Biol.* 1450: 55-83.
8. Jeong, J., et al. 2016. PMCA2 regulates HER2 protein kinase localization and signaling and promotes HER2-mediated breast cancer. *Proc. Natl. Acad. Sci. USA* 113: E282-E290.

## STORAGE

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