SANTA CRUZ BIOTECHNOLOGY, INC.

# UBC12 (L-34): sc-100608

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). UBC12, also known as UBE2M (ubiquitin-conjugating enzyme E2M), hUbc12 or UBC-RS2, is a 183 amino acid member of the E2 ubiquitin-conjugating enzyme family. UBC12 is linked with NEDD8 (neural precursor cell expressed, developmentally down-regulated 8), a ubiquitin-like protein. Via this interaction, UBC12 facilitates the attachment of NEDD8 to proteins targeted for degradation. Due to its ability to control the conjugation of NEDD8 to cellular proteins, UBC12 is thought to play a role in cell proliferation events.

## REFERENCES


1. Ciechanover, A., et al. 1994. The ubiquitin-mediated proteolytic pathway: mechanisms of recognition of the proteolytic substrate and involvement in the degradation of native cellular proteins. FASEB J. 8: 182-191.
2. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. Curr. Opin. Cell Biol. 7: 215-223.
3. Osaka, F., et al. 1998. A new NEDD8-ligating system for cullin-4A. Genes Dev. 12: 2263-2268.
4. Gong, L., et al. 1999. Identification of the activating and conjugating enzymes of the NEDD8 conjugation pathway. J. Biol. Chem. 274: 12036-12042.
5. Wada, H., et al. 2000. A dominant-negative UBC12 mutant sequesters NEDD8 and inhibits NEDD8 conjugation *in vivo*. J. Biol. Chem. 275: 17008-17015.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603173. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/


## CHROMOSOMAL LOCATION

Genetic locus: UBE2M (human) mapping to 19q13.43.

## SOURCE

UBC12 (L-34) is a mouse monoclonal antibody raised against recombinant UBC12 of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

UBC12 (L-34) is recommended for detection of UBC12 of human origin by Western Blotting (starting dilution 1:200, 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 UBC12 siRNA (h): sc-76786, UBC12 shRNA Plasmid (h): sc-76786-SH and UBC12 shRNA (h) Lentiviral Particles: sc-76786-V.

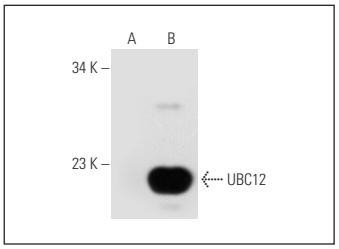
Molecular Weight of UBC12: 21 kDa.

Positive Controls: UBC12 (h): 293T Lysate: sc-116642, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

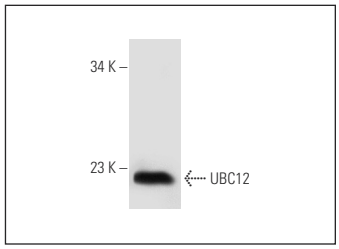
## RECOMMENDED SUPPORT REAGENTS

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




UBC12 (L-34): sc-100608. Western blot analysis of UBC12 expression in non-transfected: sc-117752 (**A**) and human UBC12 transfected: sc-116642 (**B**) 293T whole cell lysates.




UBC12 (L-34): sc-100608. Western blot analysis of UBC12 expression in Ramos whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Huang, A.M., et al. 2011. UBE2M-mediated $p27^{Kip1}$ degradation in gemcitabine cytotoxicity. Biochem. Pharmacol. 82: 35-42.
2. Chang, F.M., et al. 2012. Inhibition of neddylation represses lipopolysaccharide-induced proinflammatory cytokine production in macrophage cells. J. Biol. Chem. 287: 35756-35767.


## PROTOCOLS

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