

UBE2D (A-15): sc-14998

BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. The primary function of ubiquitin in mammalian systems is to clear abnormal, foreign, and improperly folded proteins by targeting them for proteasome degradation. UBE2D proteins, including UBE2D1 (ubiquitin-conjugating enzyme E2D1 or UBC5A), UBE2D2 (ubiquitin-conjugating enzyme E2D2 or UBC5B) and UBE2D3 (ubiquitin-conjugating enzyme E2D3 or UBC5C), are E2 ubiquitin-conjugating enzymes that catalyze the ubiquitination of I κ B α in a phosphorylation and SCFB-TRCP-dependent manner. Specifically, E1 first transfers a ubiquitin residue to the E2 component (a UBE2D protein), and the UBE2D protein then associates with an E3 ubiquitin-protein ligase, which immediately transfers that residue to a protein that is targeted for degradation. In this fashion, the ubiquitin targets the I κ B α for degradation by a proteasome thus lifting the inhibitory effect of I κ B α on NF κ B and allowing NF κ B to enter the nucleus.

REFERENCES

1. Ciechanover, A. 1994. The ubiquitin-proteasome proteolytic pathway. *Cell* 79: 13-21.
2. Ciechanover, A. and Schwartz, A.L. 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.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. *Curr. Opin. Cell Biol.* 7: 215-223.
4. Schwarz, S.E., et al. 1998. The ubiquitin-like proteins SMT3 and SUMO-1 are conjugated by the UBC9 E2 enzyme. *Proc. Natl. Acad. Sci. USA* 95: 560-564.
5. Gong, L. and Yeh, E.T. 1999. Identification of the activating and conjugating enzymes of the NEDD8 conjugation pathway. *J. Biol. Chem.* 274: 12036-12042.
6. Raboy, B., et al. 1999. Heat-induced cell cycle arrest of *Saccharomyces cerevisiae*: involvement of the RAD6/UBC2 and WSC2 genes in its reversal. *Mol. Microbiol.* 32: 729-739.
7. Strack, P., et al. 2000. SCFB-TRCP and phosphorylation dependent ubiquitination of I κ B α catalyzed by Ubc3 and Ubc4. *Oncogene* 19: 3529-3536.

SOURCE

UBE2D (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UBE2D of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14998 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

UBE2D (A-15) is recommended for detection of reactive with all isoforms of UBE2D of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

UBE2D (A-15) is also recommended for detection of reactive with all isoforms of UBE2D in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of UBE2D: 17 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, F9 cell lysate: sc-2245 or mouse testis extract: sc-2405.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



UBE2D (A-15): sc-14998. Western blot analysis of UBE2D expression in NTERA-2 cl.D1 whole cell lysate.

STORAGE

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



Try **UBE2D (C-6): sc-166278** or **UBE2D (F-6): sc-166277**, our highly recommended monoclonal alternatives to UBE2D (A-15).