

UBE2D2 (m): 293T Lysate: sc-124411

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., 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.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. *Curr. Opin. Cell Biol.* 7: 215-223.
4. Liakopoulos, D., et al. 1998. A novel protein modification pathway related to the ubiquitin system. *EMBO J.* 17: 2208-2214.
5. 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.
6. Gong, L. et al. 1999. Identification of the activating and conjugating enzymes of the NEDD8 conjugation pathway. *J. Biol. Chem.* 274: 12036-12042.

CHROMOSOMAL LOCATION

Genetic locus: Ube2d2 (mouse) mapping to 18 B2.

PRODUCT

UBE2D2 (m): 293T Lysate represents a lysate of mouse UBE2D2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

UBE2D2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive UBE2D2 antibodies. Recommended use: 10-20 μ l per lane.

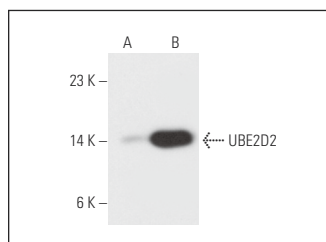
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

UBE2D2 (Y-20): sc-100617 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse UBE2D2 expression in UBE2D2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



UBE2D2 (Y-20): sc-100617. Western blot analysis of UBE2D2 expression in non-transfected: sc-117752 (A) and mouse UBE2D2 transfected: sc-124411 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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