

UBE2D2 (Y-20): sc-100617

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. In *Saccharomyces cerevisiae*, ubiquitin-like proteins include Rub1, Ula1, Uba3, Smt3, Ubc2, Ubc12 and Ubc9. Rub1 shares 53% homology with ubiquitin and requires activation via the E2 proteins, including Ula1, Uba3 and Ubc12, in order to conjugate to substrates directed to different proteolytic systems. UBE2D2 catalyzes ubiquitination of I κ B- α in a phosphorylation and SCFB-TRCP dependent manner. In this particular reaction, E1 first transfers ubiquitin to the E2 component, UBE2D2, which then associates with E3 ligase, and finally conjugates the poly-ubiquitin chain on a target protein. In this fashion, the chain tags 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.

CHROMOSOMAL LOCATION

Genetic locus: UBE2D2 (human) mapping to 5q31.2; Ube2d2 (mouse) mapping to 18 B2.

SOURCE

UBE2D2 (Y-20) is a mouse monoclonal antibody raised against recombinant UBE2D2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UBE2D2 (Y-20) is recommended for detection of UBE2D2 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), 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 UBE2D2 siRNA (h): sc-36771, UBE2D2 siRNA (m): sc-154851, UBE2D2 shRNA Plasmid (h): sc-36771-SH, UBE2D2 shRNA Plasmid (m): sc-154851-SH, UBE2D2 shRNA (h) Lentiviral Particles: sc-36771-V and UBE2D2 shRNA (m) Lentiviral Particles: sc-154851-V.

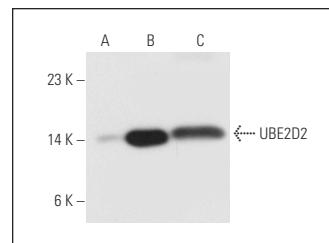
Molecular Weight of UBE2D2: 17 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or UBE2D2 (m): 293T lysate: sc-124411.

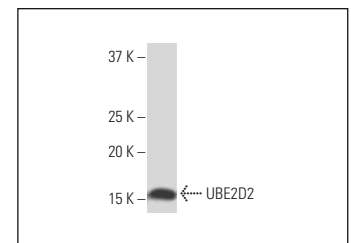
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



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 and rat testis tissue extract (C).



UBE2D2 (Y-20): sc-100617. Western blot analysis of UBE2D2 expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Sidik, S.M., et al. 2015. *Shigella* infection interferes with SUMOylation and increases PML-NB number. *PLoS ONE* 10: e0122585.
2. Shao, W., et al. 2016. FBXO3 protein promotes ubiquitylation and transcriptional activity of AIRE (autoimmune regulator). *J. Biol. Chem.* 291: 17953-17963.

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.

PROTOCOLS

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