SANTA CRUZ BIOTECHNOLOGY, INC.

UBC9 (67AT1273.95.90): sc-130281

BACKGROUND

UBC9 is a component of the ubiquitin-mediated proteolytic pathway, which targets proteins for degradation by the 26S proteasome, mediates endocytosis and directs protein subcellular localization. Ub and Ub-like molecules are systematically transferred from E2 conjugating enzymes to the targeted substrate by way of an E3 ubiquitin ligase. UBC9 functions as an E2 ubiquitin conjugating enzyme that preferentially associates with the ubiquitin homolog designated SUMO-1 or sentrin, a component of the sentrinization complex. Characteristic of the E2 family members, UBC9 contains a conserved cysteine residue that is required for the thio ester formation between Ub-like proteins and the E2 member, and it shares a conserved UBC domain. Substrates for UBC9 include transcription factors E12 and E47 and mitotic regulators RanBP2 and RanGAP1, which indicates that UBC9 may regulate a variety of cellular processes including cell cycle progression and differentiation.

REFERENCES

1. Jentsch, S. 1992. The ubiquitin-conjugation system. Annu. Rev. Genet. 26: 179-207.
2. Wang, Z.Y., et al. 1996. Molecular cloning of the cDNA and chromosome localization of the gene for human ubiquitin-conjugating enzyme 9. J. Biol. Chem. 271: 24811-24816.
3. Hochstrasser, M. 1996. Protein degradation or regulation: Ub the judge. Cell 84: 813-815.
4. Gong, L., et al. 1997. Preferential interaction of sentrin with a ubiquitin-conjugating enzyme, UBC9. J. Biol. Chem. 272: 28198-28201.
5. Saitoh, H., et al. 1998. UBC9p and the conjugation of SUMO-1 to RanGAP1 and RanBP2. Curr. Biol. 8: 121-124.
6. Okuma, T., et al. 1999. *In vitro* SUMO-1 modification requires two enzymatic steps, E1 and E2. Biochem. Biophys. Res. Commun. 254: 693-698.
7. Huggins, G.S., et al. 1999. Characterization of the mUBC9-binding sites required for E2A protein degradation. J. Biol. Chem. 274: 28690-28696.

CHROMOSOMAL LOCATION

Genetic locus: UBE2I (human) mapping to 16p13.3.

SOURCE

UBC9 (67AT1273.95.90) is a mouse monoclonal antibody raised against purified UBC9 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml 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

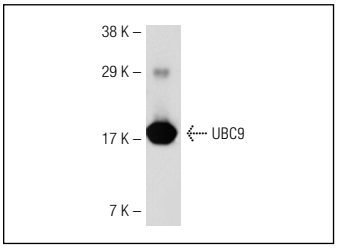
UBC9 (67AT1273.95.90) is recommended for detection of UBC9 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UBC9 siRNA (h): sc-36773, UBC9 shRNA Plasmid (h): sc-36773-SH and UBC9 shRNA (h) Lentiviral Particles: sc-36773-V.

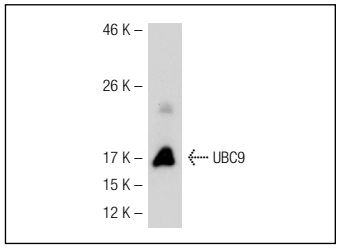
Molecular Weight of UBC9: 18 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



UBC9 (67AT1273.95.90): sc-130281. Western blot analysis of UBC9 expression in Jurkat whole cell lysate.



UBC9 (67AT1273.95.90): sc-130281. Western blot analysis of UBC9 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bentz, G.L., et al. 2011. Epstein-Barr virus latent membrane protein 1 (LMP1) C-terminal-activating region 3 contributes to LMP1-mediated cellular migration via its interaction with Ubc9. J. Virol. 85: 10144-10153.
2. Chen, S., et al. 2013. The SUMOylation of zinc-fingers and homeoboxes 1 (ZHX1) by Ubc9 regulates its stability and transcriptional repression activity. J. Cell. Biochem. 114: 2323-2333.

PROTOCOLS

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

CONJUGATES

See **UBC9 (C-12): sc-271057** for UBC9 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.