SANTA CRUZ BIOTECHNOLOGY, INC.

UBC9 (50): sc-136245

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 thioester 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 Ran BP-2 and Ran GAP1, 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 Ran GAP1 and Ran BP-2. 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; Ube2i (mouse) mapping to 17 A3.3.

SOURCE

UBC9 (50) is a mouse monoclonal antibody raised against amino acids 26-156 of UBC9 of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136245 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

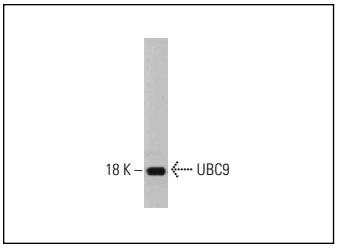
UBC9 (50) is recommended for detection of UBC9 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for UBC9 siRNA (h): sc-36773, UBC9 siRNA (m): sc-36774, UBC9 shRNA Plasmid (h): sc-36773-SH, UBC9 shRNA Plasmid (m): sc-36774-SH, UBC9 shRNA (h) Lentiviral Particles: sc-36773-V and UBC9 shRNA (m) Lentiviral Particles: sc-36774-V.

Molecular Weight of UBC9: 18 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or U-937 cell lysate: sc-2239.

DATA



UBC9 (50): sc-136245. Western blot analysis of UBC9 expression in human endothelial tissue extract.

SELECT PRODUCT CITATIONS

1. Volcic, M., et al. 2020. Vpu modulates DNA repair to suppress innate sensing and hyper-integration of HIV-1. Nat. Microbiol. 5: 1247-1261.

RESEARCH USE

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

CONJUGATES

See **UBC9 (C-12): sc-271057** for UBC9 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.