SANTA CRUZ BIOTECHNOLOGY, INC.

UBC9 (C-12): sc-271057

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 various cellular processes including cell cycle progression and differentiation.

CHROMOSOMAL LOCATION

Genetic locus: UBE2I (human) mapping to 16p13.3; Ube2i (mouse) mapping to 17 A3.3.

SOURCE

UBC9 (C-12) is a mouse monoclonal antibody raised against amino acids 1-81 of UBC9 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBC9 (C-12) is available conjugated to agarose (sc-271057 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271057 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271057 PE), fluorescein (sc-271057 FITC), Alexa Fluor® 488 (sc-271057 AF488), Alexa Fluor® 546 (sc-271057 AF546), Alexa Fluor® 594 (sc-271057 AF594) or Alexa Fluor® 647 (sc-271057 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271057 AF680) or Alexa Fluor® 790 (sc-271057 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

UBC9 (C-12) is recommended for detection of UBC9 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

UBC9 (C-12) is also recommended for detection of UBC9 in additional species, including equine, canine, bovine, porcine and avian.

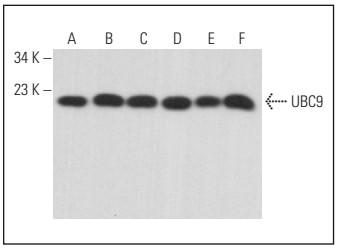
Suitable for use as control antibody for UBC9 siRNA (h): sc-36773, UBC9 siRNA (m): sc-36774, UBC9 shRNA Plasmid (h): sc-36773-SH, UBC9 shRNA Plasmid (m): sc-36774-SH, UBC9 shRNA (h) Lentiviral Particles: sc-36773-V and UBC9 shRNA (m) Lentiviral Particles: sc-36774-V.

Molecular Weight of UBC9: 18 kDa.

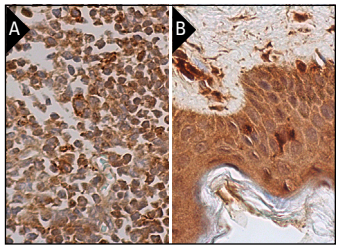
STORAGE

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

DATA



UBC9 (C-12): sc-271057. Western blot analysis of UBC9 expression in Jurkat (**A**), BXPC-3 (**B**), NCI-H292 (**C**), BYDP (**D**), A-10 (**E**) and Hep G2 (**F**) whole cell lysates.



UBC9 (C-12): sc-271057. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear and cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (**B**).

SELECT PRODUCT CITATIONS

1. Dong, M., et al. 2013. Ubiquitin-conjugating enzyme 9 promotes epithelial ovarian cancer cell proliferation *in vitro*. Int. J. Mol. Sci. 14: 11061-11071.
2. Wieczorek, E., et al. 2016. Is transthyretin a regulator of UBC9 SUMOylation? PLoS ONE 11: e0160536.
3. Huang, Z., et al. 2018. Talin is a substrate for SUMOylation in migrating cancer cells. Exp. Cell Res. 370: 417-425.
4. Baade, I., et al. 2018. Extensive identification and in-depth validation of importin 13 cargoes. Mol. Cell. Proteomics 17: 1337-1353.
5. Stubbe, M., et al. 2020. Viral DNA binding protein SUMOylation promotes PML nuclear body localization next to viral replication centers. mBio 11: e00049-20.
6. Hu, Y., et al. 2020. Ubiquitination-activating enzymes UBE1 and UBA6 regulate ubiquitination and expression of cardiac sodium channel $Na_v1.5$. Biochem. J. 477: 1683-1700.
7. Marmor-Kollet, H., et al. 2020. Spatiotemporal proteomic analysis of stress granule disassembly using APEX reveals regulation by SUMOylation and links to ALS pathogenesis. Mol. Cell 80: 876-891.e6.
8. Li, X., et al. 2021. Annexin-A1 SUMOylation regulates microglial polarization after cerebral ischemia by modulating IKKα stability via selective autophagy. Sci. Adv. 7: eabc5539.
9. Chen, S., et al. 2022. The role of REC8 in the innate immune response to viral infection. J. Virol. 96: e0217521. PMID: 35107381

RESEARCH USE

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