SANTA CRUZ BIOTECHNOLOGY, INC.

UBC9 (N-15): sc-5231

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 Ran BP-2 and Ran GAP1, which indicates that UBC9 may regulate a variety of 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 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of UBC9 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5231 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UBC9 (N-15) is recommended for detection of UBC9 of mouse, rat and 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)], 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

UBC9 (N-15) 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.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or U-937 cell lysate: sc-2239.

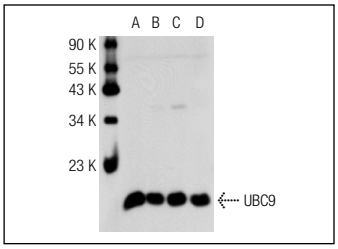
RESEARCH USE

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

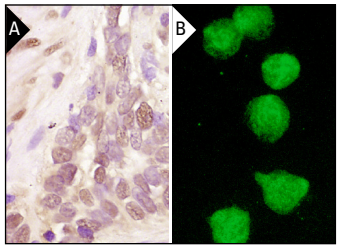
STORAGE

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

DATA



UBC9 (N-15): sc-5231. Western blot analysis of UBC9 expression in Jurkat (**A**), U-937 (**B**), HeLa (**C**) and Hep G2 (**D**) whole cell lysates.



UBC9 (N-15): sc-5231. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing nuclear staining (**A**). Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Isik, S., et al. 2003. The SUMO pathway is required for selective degradation of DNA topoisomerase IIβ induced by a catalytic inhibitor ICRF-193(1). FEBS Lett. 546: 374-378.
2. Shah, M.Y., et al. 2010. DNMT3B7, a truncated DNMT3B isoform expressed in human tumors, disrupts embryonic development and accelerates lymphomagenesis. Cancer Res. 70: 5840-5850.
3. Leitao, B., et al. 2010. Silencing of the JNK pathway maintains progesterone receptor activity in decidualizing human endometrial stromal cells exposed to oxidative stress signals. FASEB J. 24: 1541-1551.
4. Moschos, S.J., et al. 2010. Expression analysis of Ubc9, the single small ubiquitin-like modifier (SUMO) E2 conjugating enzyme, in normal and malignant tissues. Hum. Pathol. 41: 1286-1298.
5. Pavlovich, A.L., et al. 2011. Mammary branch initiation and extension are inhibited by separate pathways downstream of TGFβ in culture. Exp. Cell Res. 317: 1872-1884.
6. Delfino, D.V., et al. 2011. Glucocorticoid-induced activation of caspase-8 protects the glucocorticoid-induced protein Gilz from proteasomal degradation and induces its binding to SUMO-1 in murine thymocytes. Cell Death Differ. 18: 183-190.
7. Qin, Y., et al. 2011. Ubc9 mediates nuclear localization and growth suppression of BRCA1 and BRCA1a proteins. J. Cell. Physiol. 226: 3355-3367.