SANTA CRUZ BIOTECHNOLOGY, INC.

UBE2A/B (G-9): sc-365507

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. The first step requires the ATP-dependent activation of the Ub C-terminus and the assembly of multi-Ub chains by the Ub-activating enzyme known as the E1 component. The Ub chain is then conjugated to the Ub-conjugating enzyme (E2) to generate an intermediate Ub-E2 complex. The Ub-ligase (E3) then catalyzes the transfer of Ub from E2 to the appropriate protein substrate. UBE2A (ubiquitin-conjugating enzyme E2 A) and UBE2B (ubiquitin-conjugating enzyme E2 B) are both Ub-conjugating enzymes that are essential to postreplication repair of UV-damaged DNA. UBE2A and UBE2B are both nuclear and cell membrane proteins that have been found to interact with Rad18.

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.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. Curr. Opin. Cell Biol. 7: 215-223.
4. Bai, C., et al. 1996. SKP1 connects cell cycle regulators to the ubiquitin proteolysis machinery through a novel motif, the F-box. Cell 86: 263-274.
5. Liakopoulos, D., et al. 1998. A novel protein modification pathway related to the ubiquitin system. EMBO J. 17: 2208-2214.

CHROMOSOMAL LOCATION

Genetic locus: UBE2A (human) mapping to Xq24, UBE2B (human) mapping to 5q31.1; Ube2a (mouse) mapping to X A3.3, Ube2b (mouse) mapping to 11 B1.3.

SOURCE

UBE2A/B (G-9) is a mouse monoclonal antibody raised against amino acids 1-75 mapping at the N-terminus of UBE2A 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.

UBE2A/B (G-9) is available conjugated to agarose (sc-365507 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365507 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365507 PE), fluorescein (sc-365507 FITC), Alexa Fluor® 488 (sc-365507 AF488), Alexa Fluor® 546 (sc-365507 AF546), Alexa Fluor® 594 (sc-365507 AF594) or Alexa Fluor® 647 (sc-365507 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365507 AF680) or Alexa Fluor® 790 (sc-365507 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

UBE2A/B (G-9) is recommended for detection of UBE2A and UBE2B 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).

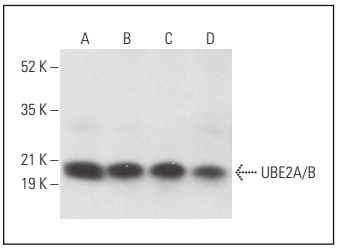
UBE2A/B (G-9) is also recommended for detection of UBE2A and UBE2B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UBC2 siRNA (h): sc-41677, UBC2 siRNA (m): sc-41678, UBC2 shRNA Plasmid (h): sc-41677-SH, UBC2 shRNA Plasmid (m): sc-41678-SH, UBC2 shRNA (h) Lentiviral Particles: sc-41677-V and UBC2 shRNA (m) Lentiviral Particles: sc-41678-V.

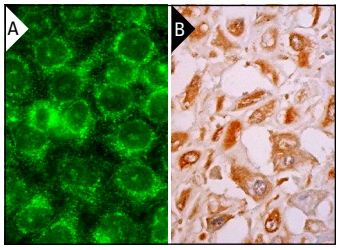
Molecular Weight of UBE2A/B: 17 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, C2C12 whole cell lysate: sc-364188 or NIH/3T3 whole cell lysate: sc-2210.

DATA



UBE2A/B (G-9): sc-365507. Western blot analysis of UBE2A/B expression in Jurkat (**A**), NIH/3T3 (**B**), Neuro-2A (**C**) and C2C12 (**D**) whole cell lysates.



UBE2A/B (G-9): sc-365507. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (**B**).

SELECT PRODUCT CITATIONS

1. Cai, Q., et al. 2022. A Toll-dependent Bre1/Rad6-cact feedback loop in controlling host innate immune response. Cell Rep. 41: 111795.
2. Haakonsen, D.L., et al. 2024. Stress response silencing by an E3 ligase mutated in neurodegeneration. Nature 626: 874-880.

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.