

UBE2C (B-8): sc-271050

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. UBE2C, also designated UBCH10 in human, is an E2 ubiquitin conjugating enzyme for the anaphase promoting complex (APC), which coordinates mitosis and G₁ by sequentially promoting the degradation of key cell-cycle regulators. UBE2C is overexpressed in many different types of cancers and may be a potential therapeutic target.

REFERENCES

- Lin, Y., et al. 2002. Structural and functional analysis of the human mitotic-specific ubiquitin-conjugating enzyme, UBCH10. *J. Biol. Chem.* 277: 21913-21921.
- Okamoto, Y., et al. 2003. UBCH10 is the cancer-related E2 ubiquitin-conjugating enzyme. *Cancer Res.* 63: 4167-4173.
- Rape, M. and Kirschner, M.W. 2004. Autonomous regulation of the anaphase-promoting complex couples mitosis to S-phase entry. *Nature* 432: 588-595.
- Passmore, L.A. and Barford, D. 2004. Getting into position: the catalytic mechanisms of protein ubiquitylation. *Biochem. J.* 379: 513-525.

CHROMOSOMAL LOCATION

Genetic locus: UBE2C (human) mapping to 20q13.12; Ube2c (mouse) mapping to 2 H3.

SOURCE

UBE2C (B-8) is a mouse monoclonal antibody raised against amino acids 17-106 mapping within an internal region of UBE2C of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBE2C (B-8) is available conjugated to agarose (sc-271050 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271050 PE), fluorescein (sc-271050 FITC), Alexa Fluor® 488 (sc-271050 AF488), Alexa Fluor® 546 (sc-271050 AF546), Alexa Fluor® 594 (sc-271050 AF594) or Alexa Fluor® 647 (sc-271050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271050 AF680) or Alexa Fluor® 790 (sc-271050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

UBE2C (B-8) is recommended for detection of UBE2C 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). UBE2C (B-8) is also recommended for detection of UBE2C in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for UBE2C siRNA (h): sc-61742, UBE2C siRNA (m): sc-61743, UBE2C shRNA Plasmid (h): sc-61742-SH, UBE2C shRNA Plasmid (m): sc-61743-SH, UBE2C shRNA (h) Lentiviral Particles: sc-61742-V and UBE2C shRNA (m) Lentiviral Particles: sc-61743-V.

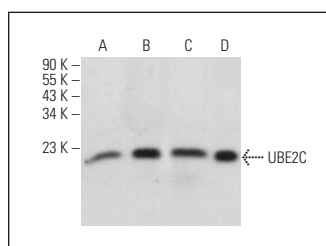
Molecular Weight of UBE2C: 20 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, UBE2C (h): 293 Lysate: sc-111903 or NIH/3T3 whole cell lysate: sc-2210.

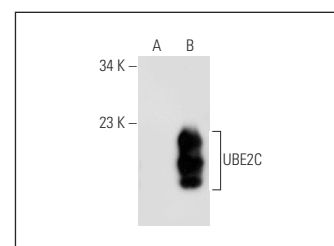
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



UBE2C (B-8): sc-271050. Western blot analysis of UBE2C expression in SW480 (A), MCF7 (B), NIH/3T3 (C) and 3T3-L1 (D) whole cell lysates.



UBE2C (B-8): sc-271050. Western blot analysis of UBE2C expression in non-transfected: sc-110760 (A) and human UBE2C transfected: sc-111903 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhang, S., et al. 2020. The negative cross-talk between SAG/RBX2/ROC2 and APC/C E3 ligases in regulation of cell cycle progression and drug resistance. *Cell Rep.* 32: 108102.
- Zhang, S., et al. 2023. The UBE2C/CDH1/DEPTOR axis is an oncogene and tumor suppressor cascade in lung cancer cells. *J. Clin. Invest.* 133: e162434.

STORAGE

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