

UBE2C (B-4): sc-166499

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

1. Lin, Y., et al. 2002. Structural and functional analysis of the human mitotic-specific ubiquitin-conjugating enzyme, UBCH10. *J. Biol. Chem.* 277: 21913-21921.
2. Okamoto, Y., et al. 2003. UBCH10 is the cancer-related E2 ubiquitin-conjugating enzyme. *Cancer Res.* 63: 4167-4173.
3. Rape, M., et al. 2004. Autonomous regulation of the anaphase-promoting complex couples mitosis to S-phase entry. *Nature* 432: 588-595.
4. Passmore, L.A., et al. 2004. Getting into position: the catalytic mechanisms of protein ubiquitylation. *Biochem. J.* 379: 513-525.
5. Wagner, K.W., et al. 2004. Overexpression, genomic amplification and therapeutic potential of inhibiting the UBCH10 ubiquitin conjugase in human carcinomas of diverse anatomic origin. *Oncogene* 23: 6621-6629.

CHROMOSOMAL LOCATION

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

SOURCE

UBE2C (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus 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.

Blocking peptide available for competition studies, sc-166499 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

UBE2C (B-4) is recommended for detection of UBE2C isoforms 1, 2, 3, and 5 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).

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.

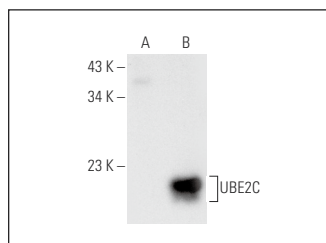
Positive Controls: UBE2C (h2): 293T Lysate: sc-116349, SW480 cell lysate: sc-2219 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

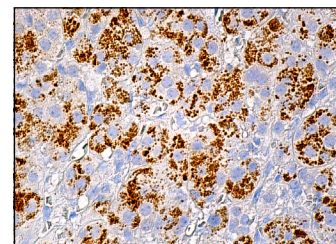
To ensure optimal results, the following support reagents are recommended:

- 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.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



UBE2C (B-4): sc-166499. Western blot analysis of UBE2C expression in non-transfected: sc-117752 (A) and human UBE2C transfected: sc-116349 (B) 293T whole cell lysates.



UBE2C (B-4): sc-166499. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

PROTOCOLS

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