

UBC13/UBE2NL (C-9): sc-365722

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). UBC13, also known as UBE2N or BLU, is a 152 amino acid member of the E2 ubiquitin-conjugating enzyme family. Existing as a heterodimer with Mms2 (also known as UBE2V2), UBC13 catalyzes the ATP-dependent synthesis of non-canonical polyubiquitin chains, a process that does not lead to proteasomal degradation. UBC13 mediates the transcription of several target genes and is thought to play a role in cell cycle progression, cellular differentiation and DNA repair mechanisms that ensure cell survival after DNA damage. UBE2NL (ubiquitin-conjugating enzyme E2N-like) is a 153 amino acid protein that belongs to the ubiquitin-conjugating enzyme family and is encoded by a gene located on human chromosome 12.

REFERENCES

1. Yamaguchi, T., et al. 1996. Cloning and expression of cDNA encoding a human ubiquitin-conjugating enzyme similar to the *Drosophila* bendless gene product. *J. Biochem.* 120: 494-497.
2. Hoege, C., et al. 2002. RAD6-dependent DNA repair is linked to modification of PCNA by ubiquitin and SUMO. *Nature* 419: 135-141.
3. Andersen, P.L., et al. 2005. Distinct regulation of Ubc13 functions by the two ubiquitin-conjugating enzyme variants Mms2 and Uev1A. *J. Cell Biol.* 170: 745-755.

CHROMOSOMAL LOCATION

Genetic locus: UBE2N (human) mapping to 12q22, UBE2NL (human) mapping to Xq27.3; Ube2n (mouse) mapping to 10 C2, Ube2nl (mouse) mapping to 7 C.

SOURCE

UBC13/UBE2NL (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-37 near the N-terminus of UBC13 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UBC13/UBE2NL (C-9) is available conjugated to agarose (sc-365722 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365722 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365722 PE), fluorescein (sc-365722 FITC), Alexa Fluor® 488 (sc-365722 AF488), Alexa Fluor® 546 (sc-365722 AF546), Alexa Fluor® 594 (sc-365722 AF594) or Alexa Fluor® 647 (sc-365722 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365722 AF680) or Alexa Fluor® 790 (sc-365722 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365722 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

UBC13/UBE2NL (C-9) is recommended for detection of UBC13 and UBE2NL 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).

UBC13/UBE2NL (C-9) is also recommended for detection of UBC13 and UBE2NL in additional species, including equine, canine, bovine and porcine.

Molecular Weight of UBC13/UBE2NL: 17 kDa.

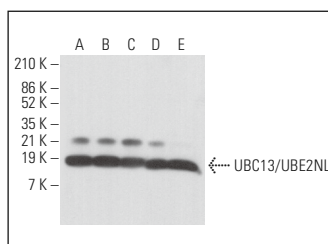
Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

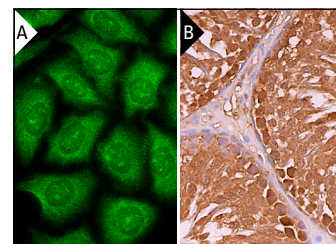
To ensure optimal results, the following support reagents are recommended:

- 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



UBC13/UBE2NL (C-9): sc-365722. Western blot analysis of UBC13/UBE2NL expression in BJAB (A), CCRF-CEM (B), Jurkat (C), NIH/3T3 (D) and HeLa (E) whole cell lysates.



UBC13/UBE2NL (C-9): sc-365722. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts (B).

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.