

UBE1 (B-5): sc-271821

BACKGROUND

The ubiquitin activating enzyme E1 (UBE1) catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation. Specifically, UBE1 functions to adenylate the C-terminal glycine residue of ubiquitin, a reaction that is ATP-dependent and is preceded by the formation of a thiolester bond with a cysteine residue of UBE1. The UBE1-activated ubiquitin is then transferred to a ubiquitin conjugated enzyme, which donates the ubiquitin residue to target substrates. The UBE1 gene is an example of an X-Y homologous gene, which is X-linked with a distinct Y-linked gene in many mammals. However, no UBE1 homolog is detectable on the human Y chromosome. UBE1 is thought to escape X inactivation in humans.

REFERENCES

1. Handley, P.M., et al. 1991. Molecular cloning, sequence and tissue distribution of the human ubiquitin-activating enzyme E1. *Proc. Natl. Acad. Sci. USA* 88: 258-262.
2. Disteche, C.M., et al. 1992. Mapping and expression of the ubiquitin-activating enzyme E1 (UBE1) gene in the mouse. *Mamm. Genome* 3: 156-161.
3. Coleman, M.P., et al. 1996. A novel gene, DXS8237E, lies within 20 kb upstream of UBE1 in Xp11.23 and has a different X inactivation status. *Genomics* 31: 135-138.
4. Odoriso, T., et al. 1996. Transcriptional analysis of the candidate spermatogenesis gene *Ube1y* and of the closely related *Ube1x* shows that they are coexpressed in spermatogonia and spermatids but are repressed in pachytene spermatocytes. *Dev. Biol.* 180: 336-343.
5. Carrel, L., et al. 1996. X inactivation analysis and DNA methylation studies of the ubiquitin activating enzyme E1 and PCTAIRE-1 genes in human and mouse. *Hum. Mol. Genet.* 5: 391-401.

CHROMOSOMAL LOCATION

Genetic locus: UBA1 (human) mapping to Xp11.23; Uba1 (mouse) mapping to X A1.3.

SOURCE

UBE1 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 99-131 near the N-terminus of UBE1 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-271821 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.

APPLICATIONS

UBE1 (B-5) is recommended for detection of UBE1 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).

UBE1 (B-5) is also recommended for detection of UBE1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for UBE1 siRNA (h): sc-61750, UBE1 siRNA (m): sc-61751, UBE1 shRNA Plasmid (h): sc-61750-SH, UBE1 shRNA Plasmid (m): sc-61751-SH, UBE1 shRNA (h) Lentiviral Particles: sc-61750-V and UBE1 shRNA (m) Lentiviral Particles: sc-61751-V.

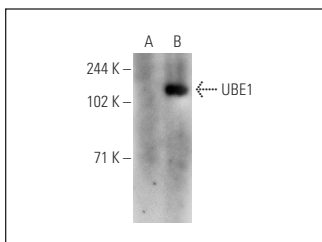
Molecular Weight of UBE1: 110 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or UBE1 (h): 293T Lysate: sc-171710.

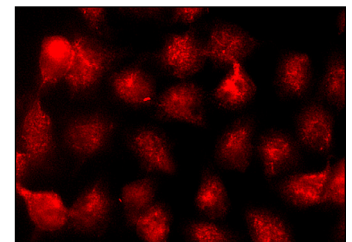
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



UBE1 (B-5): sc-271821. Western blot analysis of UBE1 expression in non-transfected: sc-117752 (A) and human UBE1 transfected: sc-171710 (B) 293T whole cell lysates.



UBE1 (B-5): sc-271821. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

RESEARCH USE

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



See **UBE1 (2G2): sc-53555** for UBE1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.