

UBE1 (N-19): sc-47554

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 thioester 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., Mueckler, M., Siegel, N.R., Ciechanover, A. and Schwartz, A.L. 1991. Molecular cloning, sequence, and tissue distribution of the human ubiquitin-activating enzyme E1. *Proc. Nat. Acad. Sci. USA* 88: 258-262.
2. Disteche, C.M., Zacksenhaus, E., Adler, D.A., Bressler, S.L., Keitz, B.T. and Chapman, V.M. 1992. Mapping and expression of the ubiquitin-activating enzyme E1 (Ube1) gene in the mouse. *Mamm. Genome* 3: 156-161.
3. Coleman, M.P., Ambrose, H.J., Carrel, L., Nemeth, A.H., Willard, H.F. and Davies, K.E. 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., Mahadevaiah, S.K., McCarrey, J.R. and Burgoyne, P.S. 1997. 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., Clemson, C.M., Dunn, J.M., Miller, A.P., Hunt, P.A., Lawrence, J.B. and Willard, H.F. 1997. 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.
6. Mitchell, M.J., Wilcox, S.A., Watson, J.M., Lerner, J.L., Woods, D.R., Scheffler, J., Hearn, J.P., Bishop, C.E. and Graves, J.A. 1998. The origin and loss of the ubiquitin activating enzyme gene on the mammalian Y chromosome. *Hum. Mol. Genet.* 7: 429-434.

CHROMOSOMAL LOCATION

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

SOURCE

UBE1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UBE1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47554 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UBE1 (N-19) is recommended for detection of UBE1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (N-19) is also recommended for detection of UBE1 in additional species, including equine, canine 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: HeLa nuclear extract: sc-2120, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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



Try **UBE1 (2G2): sc-53555** or **UBE1 (D-8): sc-515424**, our highly recommended monoclonal alternatives to UBE1 (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **UBE1 (2G2): sc-53555**.