SANTA CRUZ BIOTECHNOLOGY, INC.

UBE1L (D-18): sc-54437

BACKGROUND

The ubiquitin activating enzyme E1 (UBE1) catalyzes the first step in ubiquitin conjugation to mark cellular proteins for degradation. UBE1 activates ubiquitin by first adenylating (with ATP) its carboxy-terminal glycine residue and thereafter linking this residue to the side chain of a cysteine residue in E1, yielding a ubiquitin-E1 thioester and a free AMP. UBE1 is an example of an X-Y homologous gene, which is X-linked with a distinct Y-linked gene in many mammals. UBE1L (ubiquitin-activating enzyme E1 homolog), also known as UBA7 (ubiquitin-like modifier-activating enzyme 7) or UBE2, is a 1,011 amino acid homolog of UBE1. Like UBE1, UBE1L functions in the activation of ubiquitin through ATP-dependent adenylation. UBE1L is expressed in tumor cells and is a retinoid target that, through conjugation with ISG15 (interferon-induced 15 kDa protein), triggers degradation and apoptosis in acute promyelocytic leukemia.

REFERENCES

1. Kitareewan, S., Pitha-Rowe, I., Sekula, D., Lowrey, C.H., Nemeth, M.J., Golub, T.R., Freemantle, S.J. and Dmitrovsky, E. 2002. UBE1L is a retinoid target that triggers PML/RaRα degradation and apoptosis in acute promyelocytic leukemia. Proc. Natl. Acad. Sci. USA 99: 3806-3811.
2. Pitha-Rowe, I., Hassel, B.A. and Dmitrovsky, E. 2004. Involvement of UBE1L in ISG15 conjugation during retinoid-induced differentiation of acute promyelocytic leukemia. J. Biol. Chem. 279: 18178-18187.
3. Pitha-Rowe, I., Petty, W.J., Feng, Q., Koza-Taylor, P.H., Dimattia, D.A., Pinder, L., Dragnev, K.H., Memoli, N., Memoli, V., Turi, T., Beebe, J., Kitareewan, S. and Dmitrovsky, E. 2004. Microarray analyses uncover UBE1L as a candidate target gene for lung cancer chemoprevention. Cancer Res. 64: 8109-8115.
4. Zhao, C., Denison, C., Huibregtse, J.M., Gygi, S. and Krug, R.M. 2005. Human ISG15 conjugation targets both IFN-induced and constitutively expressed proteins functioning in diverse cellular pathways. Proc. Natl. Acad. Sci. USA 102: 10200-10205.

CHROMOSOMAL LOCATION

Genetic locus: Ube1l (mouse) mapping to 9 F2.

SOURCE

UBE1L (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UBE1L of mouse origin.

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-54437 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

UBE1L (D-18) is recommended for detection of ubiquitin-activating enzyme E1 homolog of mouse and rat origin by Western Blotting (starting dilution 1:200, 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).

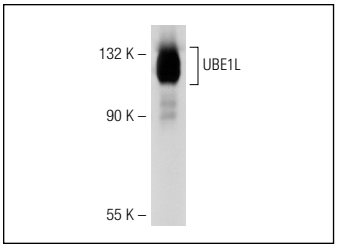
Suitable for use as control antibody for UBE1L siRNA (m): sc-77414, UBE1L shRNA Plasmid (m): sc-77414-SH and UBE1L shRNA (m) Lentiviral Particles: sc-77414-V.

Molecular Weight of UBE1L: 112 kDa.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



UBE1L (D-18): sc-54437. Western blot analysis of UBE1L expression in HL-60 whole cell lysate.

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.