

UBE1L (B-7): sc-390097

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., et al. 2002. UBE1L is a retinoid target that triggers PML/RAR α degradation and apoptosis in acute promyelocytic leukemia. *Proc. Natl. Acad. Sci. USA* 99: 3806-3811.
2. Pitha-Rowe, I., et al. 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., et al. 2004. Microarray analyses uncover UBE1L as a candidate target gene for lung cancer chemoprevention. *Cancer Res.* 64: 8109-8115.
4. Krug, R.M., et al. 2005. Properties of the ISG15 E1 enzyme Ube1L. *Meth. Enzymol.* 398: 32-40.

CHROMOSOMAL LOCATION

Genetic locus: UBA7 (human) mapping to 3p21.31; Uba7 (mouse) mapping to 9 F2.

SOURCE

UBE1L (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 299-337 within an internal region of UBE1L of human origin.

PRODUCT

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

UBE1L (B-7) is available conjugated to agarose (sc-390097 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390097 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390097 PE), fluorescein (sc-390097 FITC), Alexa Fluor[®] 488 (sc-390097 AF488), Alexa Fluor[®] 546 (sc-390097 AF546), Alexa Fluor[®] 594 (sc-390097 AF594) or Alexa Fluor[®] 647 (sc-390097 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390097 AF680) or Alexa Fluor[®] 790 (sc-390097 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

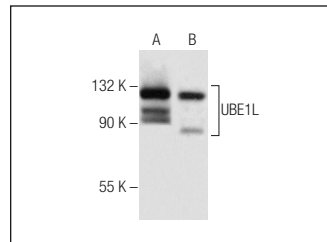
UBE1L (B-7) is recommended for detection of UBE1L of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 (h): sc-106657, UBE1L siRNA (m): sc-77414, UBE1L shRNA Plasmid (h): sc-106657-SH, UBE1L shRNA Plasmid (m): sc-77414-SH, UBE1L shRNA (h) Lentiviral Particles: sc-106657-V and UBE1L shRNA (m) Lentiviral Particles: sc-77414-V.

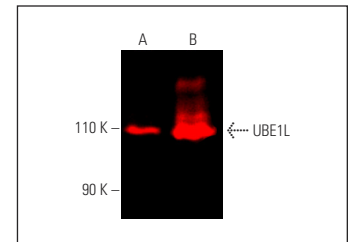
Molecular Weight of UBE1L: 112 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, THP-1 cell lysate: sc-2238 or I-11.15 whole cell lysate: sc-364370.

DATA



UBE1L (B-7): sc-390097. Western blot analysis of UBE1L expression in HL-60 (A) and I-11.15 (B) whole cell lysates.



UBE1L (B-7): sc-390097. Near-Infrared western blot analysis of UBE1L expression in HL-60 (A) and THP-1 (B) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG₁ BP-CFL 790: sc-533666.

SELECT PRODUCT CITATIONS

1. Holthaus, D., et al. 2020. Direct antiviral activity of IFN-stimulated genes is responsible for resistance to paramyxoviruses in ISG15-deficient cells. *J. Immunol.* 205: 261-271.
2. Zhang, L., et al. 2020. Changes in expression of interferon-stimulated genes and ubiquitin activating enzyme E1-like in ovine thymus during early pregnancy. *Anim. Reprod.* 17: e20190134.
3. Oki, N., et al. 2022. Curcumin partly prevents ISG15 activation via ubiquitin-activating enzyme E1-like protein and decreases ISGylation. *Biochem. Biophys. Res. Commun.* 625: 94-101.

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.