## SANTA CRUZ BIOTECHNOLOGY, INC.

# UBE1L (P-20): sc-54439



# 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

- 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.
- 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.
- 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.
- 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.
- Krug, R.M., Zhao, C. and Beaudenon, S. 2005. Properties of the ISG15 E1 enzyme UBE1L. Methods Enzymol. 398: 32-40.
- Takeuchi, T., Iwahara, S., Saeki, Y., Sasajima, H. and Yokosawa, H. 2005. Link between the ubiquitin conjugation system and the ISG15 conjugation system: ISG15 conjugation to the UBCH6 ubiquitin E2 enzyme. J. Biochem. 138: 711-719.
- 7. Zou, W. and Zhang, D.E. 2006. The interferon-inducible ubiquitin-protein isopeptide ligase (E3) EFP also functions as an ISG15 E3 ligase. J. Biol. Chem. 281: 3989-3994.

## CHROMOSOMAL LOCATION

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

### SOURCE

UBE1L (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UBE1L of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54439 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

UBE1L (P-20) is recommended for detection of ubiquitin-activating enzyme E1 homolog of mouse, rat and human 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).

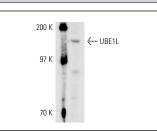
UBE1L (P-20) is also recommended for detection of ubiquitin-activating enzyme E1 homolog in additional species, including equine and canine.

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.

#### DATA



UBE1L (P-20): sc-54439. Western blot analysis of UBE1L expression in HL-60 whole cell lysate.

#### **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.

# MONOS Satisfation Guaranteed Try UBE1L (G-11): sc-390238 or UBE1L (B-7): sc-390097, our highly recommended monoclonal alternatives to UBE1L (P-20).