SANTA CRUZ BIOTECHNOLOGY, INC.

UBE1L (E-10): sc-376765

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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/RARα 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. Zhao, C., et al. 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.
5. Krug, R.M., et al. 2005. Properties of the ISG15 E1 enzyme UBE1L. Methods Enzymol. 398: 32-40.
6. Takeuchi, T., et al. 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., et al. 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 (E-10) is a mouse monoclonal antibody raised against amino acids 154-357 mapping within an internal region of UBE1L of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UBE1L (E-10) 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 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 (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.

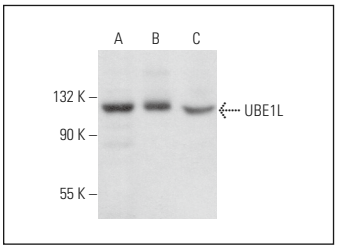
Molecular Weight of UBE1L: 112 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802, RAW 264.7 whole cell lysate: sc-2211 or KNRK whole cell lysate: sc-2214.

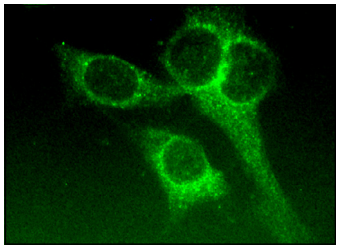
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



UBE1L (E-10): sc-376765. Western blot analysis of UBE1L expression in J774.A1 (**A**), RAW 264.7 (**B**) and KNRK (**C**) whole cell lysates.



UBE1L (E-10): sc-376765. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Rodriguez, M.R., et al. 2014. ISG15 functions as an interferon-mediated antiviral effector early in the murine norovirus life cycle. J. Virol. 88: 9277-9286.

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.