

UBPY (H-300): sc-98352

BACKGROUND

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. UBPY, also known as USP8 (ubiquitin carboxyl-terminal hydrolase 8) or KIAA0055, is a 1,118 amino acid protein that contains one rhodanese domain and exists in a ternary complex with OTUB1 and GRAIL. Functioning as a hydrolase, UBPY catalyzes the removal of ubiquitin from ubiquitin-conjugated proteins and plays an important role in protein turnover, cellular proliferation and T cell energy. The gene encoding UBPY maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Naviglio, S., et al. 1998. UBPY: a growth-regulated human ubiquitin isopeptidase. *EMBO J.* 17: 3241-3250.
2. Kato, M., et al. 2000. A deubiquitinating enzyme UBPY interacts with the Src homology 3 domain of Hrs-binding protein via a novel binding motif PX(V/I)(D/N)RXKPK. *J. Biol. Chem.* 275: 37481-37487.
3. Gnesutta, N., et al. 2001. Cloning and characterization of mouse UBPY, a deubiquitinating enzyme that interacts with the Ras guanine nucleotide exchange factor CDC25^{Mm}/Ras-GRF1. *J. Biol. Chem.* 276: 39448-39454.
4. Berruti, G. and Martegani, E. 2005. The deubiquitinating enzyme mUBPY interacts with the sperm-specific molecular chaperone MSJ-1: the relation with the proteasome, acrosome, and centrosome in mouse male germ cells. *Biol. Reprod.* 72: 14-21.
5. Row, P.E., et al. 2006. The ubiquitin isopeptidase UBPY regulates endosomal ubiquitin dynamics and is essential for receptor downregulation. *J. Biol. Chem.* 281: 12618-12624.
6. Avvakumov, G.V., et al. 2006. Amino-terminal dimerization, NRDP1-rhodanese interaction, and inhibited catalytic domain conformation of the ubiquitin-specific protease 8 (USP8). *J. Biol. Chem.* 281: 38061-38070.
7. Mizuno, E., et al. 2006. A deubiquitinating enzyme UBPY regulates the level of protein ubiquitination on endosomes. *Traffic* 7: 1017-1031.
8. Alwan, H.A. and van Leeuwen, J.E. 2007. UBPY-mediated epidermal growth factor receptor (EGFR) deubiquitination promotes EGFR degradation. *J. Biol. Chem.* 282: 1658-1669.
9. Row, P.E., et al. 2007. The MIT domain of UBPY constitutes a CHMP binding and endosomal localization signal required for efficient epidermal growth factor receptor degradation. *J. Biol. Chem.* 282: 30929-30937.

CHROMOSOMAL LOCATION

Genetic locus: USP8 (human) mapping to 15q21.2; Usp8 (mouse) mapping to 2 F1.

SOURCE

UBPY (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of UBPY of human origin.

PRODUCT

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

APPLICATIONS

UBPY (H-300) is recommended for detection of UBPY 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).

UBPY (H-300) is also recommended for detection of UBPY in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for UBPY siRNA (h): sc-76795, UBPY siRNA (m): sc-76796, UBPY shRNA Plasmid (h): sc-76795-SH, UBPY shRNA Plasmid (m): sc-76796-SH, UBPY shRNA (h) Lentiviral Particles: sc-76795-V and UBPY shRNA (m) Lentiviral Particles: sc-76796-V.

Molecular Weight (predicted) of UBPY: 128 kDa.

Molecular Weight (observed) of UBPY: 134 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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



Try **UBPY (E-1): sc-376130** or **UBPY (A-11): sc-376129**, our highly recommended monoclonal alternatives to UBPY (H-300).