

USP3 (Y-16): sc-79319

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. USP3 (ubiquitin specific peptidase 3), also known as UBP or SH003, is a 520 amino acid protein that contains one UBP-type zinc finger and belongs to the peptidase C19 family. Expressed ubiquitously with highest levels present in pancreas, USP3 catalyzes the conversion of a ubiquitin C-terminal thioester to a free ubiquitin and a thiol. The gene encoding USP3 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Chung, C.H. and Baek, S.H. 1999. Deubiquitinating enzymes: their diversity and emerging roles. *Biochem. Biophys. Res. Commun.* 266: 633-640.
2. Sloper-Mould, K.E., Eyre, H.J., Wang, X.W., Sutherland, G.R. and Baker, R.T. 1999. Characterization and chromosomal localization of USP3, a novel human ubiquitin-specific protease. *J. Biol. Chem.* 274: 26878-26884.
3. Puente, X.S., Sánchez, L.M., Overall, C.M. and López-Otín, C. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604728. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Whalen, R., Liu, X. and Boyer, T.D. 2006. Identification of a short form of ubiquitin-specific protease 3 that is a repressor of rat glutathione S-transferase gene expression. *Biochem. J.* 394: 519-526.
6. Nicassio, F., Corrado, N., Vissers, J.H., Areces, L.B., Bergink, S., Marteiijn, J.A., Geverts, B., Houtsmuller, A.B., Vermeulen, W., Di Fiore, P.P. and Citterio, E. 2007. Human USP3 is a chromatin modifier required for S phase progression and genome stability. *Curr. Biol.* 17: 1972-1977.

CHROMOSOMAL LOCATION

Genetic locus: USP3 (human) mapping to 15q22.31; Usp3 (mouse) mapping to 9 C.

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.

SOURCE

USP3 (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of USP3 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.

Blocking peptide available for competition studies, sc-79319 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USP3 (Y-16) is recommended for detection of USP3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

USP3 (Y-16) is also recommended for detection of USP3 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for USP3 siRNA (h): sc-76835, USP3 siRNA (m): sc-76836, USP3 shRNA Plasmid (h): sc-76835-SH, USP3 shRNA Plasmid (m): sc-76836-SH, USP3 shRNA (h) Lentiviral Particles: sc-76835-V and USP3 shRNA (m) Lentiviral Particles: sc-76836-V.

Molecular Weight of USP3: 59 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) 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.