

# USP3 (8L8): sc-135597

## 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 SIH003, 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

- Chung, C.H. and Baek, S.H. 1999. Deubiquitinating enzymes: their diversity and emerging roles. *Biochem. Biophys. Res. Commun.* 266: 633-640.
- Sloper-Mould, K.E., et al. 1999. Characterization and chromosomal localization of USP3, a novel human ubiquitin-specific protease. *J. Biol. Chem.* 274: 26878-26884.
- Puente, X.S., et al. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604728. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Whalen, R., et al. 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.
- Nicassio, F., et al. 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.

## SOURCE

USP3 (8L8) is a mouse monoclonal antibody raised against recombinant USP3 protein of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

USP3 (8L8) is recommended for detection of USP3 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

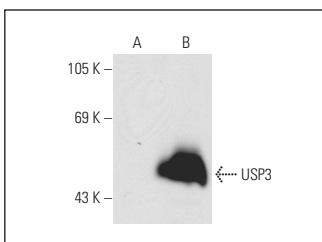
Molecular Weight of USP3: 59 kDa.

Positive Controls: USP3 (h3): 293T Lysate: sc-173209.

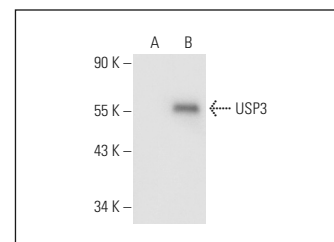
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



USP3 (8L8): sc-135597. Western blot analysis of USP3 expression in non-transfected: sc-117752 (A) and human USP3 transfected: sc-112418 (B) 293T whole cell lysates.



USP3 (8L8): sc-135597. Western blot analysis of USP3 expression in non-transfected: sc-117752 (A) and human USP3 transfected: sc-173209 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Gao, S., et al. 2017. Influenza A virus-induced downregulation of miR-26a contributes to reduced IFNα/β production. *Virology*. 32: 261-270.
- Zhou, Q., et al. 2019. Ubiquitin-specific protease 3 targets TRAF6 for deubiquitination and suppresses IL-1β induced chondrocyte apoptosis. *Biochem. Biophys. Res. Commun.* 514: 482-489.
- Rhie, B.H., et al. 2021. Ubiquitin-specific protease 3 deubiquitinates and stabilizes Oct4 protein in human embryonic stem cells. *Int. J. Mol. Sci.* 22: 5584.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.