

# USP21 (S-20): sc-79307

## 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. USP21 (ubiquitin specific peptidase 21), also known as USP16 or USP23, is a 565 amino acid protein that belongs to the C19 peptidase family of ubiquitin carboxy-terminal hydrolases. Capable of removing ubiquitin from ubiquitinated proteins, USP21 plays a role in signal transduction and can also remove NEDD8 from NEDD8-conjugated proteins, possibly functioning to influence NEDD8-mediated protein proteolysis. Multiple isoforms of USP21 exist due to alternative splicing events.

## REFERENCES

1. Yin, L., Krantz, B., Russell, N.S., Deshpande, S. and Wilkinson, K.D. 2000. Nonhydrolyzable diubiquitin analogues are inhibitors of ubiquitin conjugation and deconjugation. *Biochemistry* 39: 10001-10010.
2. Smith, T.S. and Southan, C. 2000. Sequencing, tissue distribution and chromosomal assignment of a novel ubiquitin-specific protease USP23. *Biochim. Biophys. Acta* 1490: 184-188.
3. Gong, L., Kamitani, T., Millas, S. and Yeh, E.T. 2000. Identification of a novel isopeptidase with dual specificity for ubiquitin- and NEDD8-conjugated proteins. *J. Biol. Chem.* 275: 14212-14216.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604729. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Ismail, A. and Nawaz, Z. 2005. Nuclear hormone receptor degradation and gene transcription: an update. *IUBMB Life* 57: 483-490.
6. Joo, H.Y., Zhai, L., Yang, C., Nie, S., Erdjument-Bromage, H., Tempst, P., Chang, C. and Wang, H. 2007. Regulation of cell cycle progression and gene expression by H2A deubiquitination. *Nature* 449: 1068-1072.

## CHROMOSOMAL LOCATION

Genetic locus: USP21 (human) mapping to 1q23.3; Usp21 (mouse) mapping to 1 H3.

## SOURCE

USP21 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of USP21 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-79307 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

USP21 (S-20) is recommended for detection of USP21 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).

USP21 (S-20) is also recommended for detection of USP21 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for USP21 siRNA (h): sc-76825, USP21 siRNA (m): sc-76826, USP21 shRNA Plasmid (h): sc-76825-SH, USP21 shRNA Plasmid (m): sc-76826-SH, USP21 shRNA (h) Lentiviral Particles: sc-76825-V and USP21 shRNA (m) Lentiviral Particles: sc-76826-V.

Molecular Weight of USP21: 62 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.

## 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) or our catalog for detailed protocols and support products.



Try **USP21 (3D10): sc-293400**, our highly recommended monoclonal alternative to USP21 (S-20).