

# USP21 (B-9): sc-515911

## 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., et al. 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., et al. 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., et al. 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 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 76-98 within an internal region of USP21 of human origin.

## PRODUCT

Each vial contains 200 µg IgM 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.

## APPLICATIONS

USP21 (B-9) is recommended for detection of USP21 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 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.

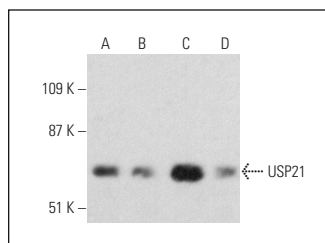
Molecular Weight of USP21: 62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, C6 whole cell lysate: sc-364373 or MIA PaCa-2 cell lysate: sc-2285.

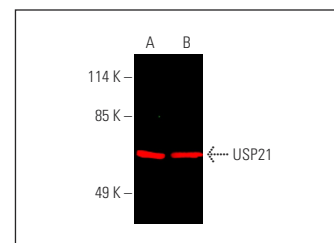
## RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



USP21 (B-9): sc-515911. Western blot analysis of USP21 expression in RIN-m5F (A), Sol8 (B), L8 (C) and C6 (D) whole cell lysates.



USP21 (B-9): sc-515911. Near-infrared western blot analysis of USP21 expression in HeLa (A) and MIA PaCa-2 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

## SELECT PRODUCT CITATIONS

1. Long, C., et al. 2018. LPS promotes HBO1 stability via USP25 to modulate inflammatory gene transcription in THP-1 cells. *Biochim. Biophys. Acta Gene Regul. Mech.* 1861: 773-782.
2. Yun, S.I., et al. 2020. Ubiquitin-specific protease 21 promotes colorectal cancer metastasis by acting as a Fra-1 deubiquitinase. *Cancers* 12 pii: E207.

## RESEARCH USE

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