

USP28 (C-17): sc-79312

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. USP28 (ubiquitin specific peptidase 28) is a 1,077 amino acid protein that contains one UIM repeat and belongs to the peptidase C19 family. Playing an important role in the maintenance of cell-free ubiquitin pools, USP28 functions to catalytically remove ubiquitin from ubiquitin-conjugated peptides, thereby releasing free ubiquitin and affecting the fate and degradation of target peptides. Two isoforms of USP28 exist due to alternative splicing events.

REFERENCES

- Nagase, T., Kikuno, R., Ishikawa, K., Hirose, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 143-150.
- Valero, R., Bayes, M., Francisca Sánchez-Font, M., González-Angulo, O., González-Duarte, R. and Marfany, G. 2001. Characterization of alternatively spliced products and tissue-specific isoforms of USP28 and USP25. Genome Biol. 2: RESEARCH0043.
- 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.
- Zhang, D., Zaugg, K., Mak, T.W. and Elledge, S.J. 2006. A role for the deubiquitinating enzyme USP28 in control of the DNA-damage response. Cell 126: 529-542.
- Popov, N., Herold, S., Llamazares, M., Schüle, C. and Eilers, M. 2007. Fbw7 and Usp28 regulate Myc protein stability in response to DNA damage. Cell Cycle 6: 2327-2331.
- Popov, N., Wanzel, M., Madiredjo, M., Zhang, D., Beijersbergen, R., Bernards, R., Moll, R., Elledge, S.J. and Eilers, M. 2007. The ubiquitin-specific protease USP28 is required for Myc stability. Nat. Cell Biol. 9: 765-774.
- Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610748. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: USP28 (human) mapping to 11q23.2; Usp28 (mouse) mapping to 9 A5.3.

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.

SOURCE

USP28 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of USP28 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-79312 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USP28 (C-17) is recommended for detection of USP28 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).

USP28 (C-17) is also recommended for detection of USP28 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for USP28 siRNA (h): sc-76831, USP28 siRNA (m): sc-76832, USP28 shRNA Plasmid (h): sc-76831-SH, USP28 shRNA Plasmid (m): sc-76832-SH, USP28 shRNA (h) Lentiviral Particles: sc-76831-V and USP28 shRNA (m) Lentiviral Particles: sc-76832-V.

Molecular Weight of USP28: 140 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.

PROTOCOLS

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