

USP34 (N-20): sc-82099

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. USP34 (ubiquitin specific peptidase 34) is a 3,395 amino acid protein that belongs to the peptidase C19 family of proteins. Expressed at low levels in brain, USP34 functions as a deubiquitinating enzyme that cleaves ubiquitin residues from both ubiquitinated proteins and ubiquitin-fused precursors, thereby saving these proteins from proteasomal degradation. In response to DNA damage, USP34 is phosphorylated by Atm or ATR. Two isoforms of USP34 are expressed due to alternative splicing events.

REFERENCES

1. 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.
2. Ballif, B.A., Villen, J., Beausoleil, S.A., Schwartz, D. and Gygi, S.P. 2004. Phosphoproteomic analysis of the developing mouse brain. *Mol. Cell Proteomics* 3: 1093-1101.
3. Quesada, V., Díaz-Perales, A., Gutierrez-Fernández, A., Garabaya, C., Cal, S. and López-Otín, C. 2004. Cloning and enzymatic analysis of 22 novel human ubiquitin-specific proteases. *Biochem. Biophys. Res. Commun.* 314: 54-62.
4. Mu, J.J., Wang, Y., Luo, H., Leng, M., Zhang, J., Yang, T., Besusso, D., Jung, S.Y. and Qin, J. 2007. A proteomic analysis of ataxia telangiectasia-mutated (Atm)/Atm-Rad3-related (ATR) substrates identifies the ubiquitin-proteasome system as a regulator for DNA damage checkpoints. *J. Biol. Chem.* 282: 17330-17334.
5. de Leeuw, N., Pfundt, R., Koolen, D.A., Neefs, I., Scheltinga, I., Mieloo, H., Siermans, E.A., Nillesen, W., Smeets, D.F., de Vries, B.B. and Knoers, N.V. 2008. A newly recognised microdeletion syndrome involving 2p15p16.1: narrowing down the critical region by adding another patient detected by genome wide tiling path array comparative genomic hybridisation analysis. *J. Med. Genet.* 45: 122-124.

CHROMOSOMAL LOCATION

Genetic locus: USP34 (human) mapping to 2p15; Usp34 (mouse) mapping to 11 A3.2.

SOURCE

USP34 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of USP34 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-82099 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USP34 (N-20) is recommended for detection of USP34 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); non cross-reactive with other USP family members.

USP34 (N-20) is also recommended for detection of USP34 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for USP34 siRNA (h): sc-76841, USP34 shRNA Plasmid (h): sc-76841-SH and USP34 shRNA (h) Lentiviral Particles: sc-76841-V.

Molecular Weight of USP34: 387 kDa.

Positive Controls: A549 cell lysate: sc-2413.

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.

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.