SANTA CRUZ BIOTECHNOLOGY, INC.

USP19 (S-16): sc-99713

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Ubiquitin-specific-processing protease 19 (USP19), also known as ubiquitin carboxyl-terminal hydrolase 19, ubiquitin thioesterase 19 and deubiquitinating enzyme 19, is a 1318 amino acid member of the peptidase C19 family of proteins. USP19 is thought to be involved in the ubiquitin-dependent proteolytic pathway in conjunction with the 26S proteasome. Four known isoforms of USP19 exist as a result of alternative splicing events.

REFERENCES

1. Li, Z., Wang, D., Na, X., Schoen, S.R., Messing, E.M. and Wu, G. 2002. Identification of a deubiquitinating enzyme subfamily as substrates of the von Hippel-Lindau tumor suppressor. Biochem. Biophys. Res. Commun. 294: 700-709.
2. Li, Z., Na, X., Wang, D., Schoen, S.R., Messing, E.M. and Wu, G. 2002. Ubiquitination of a novel deubiquitinating enzyme requires direct binding to von Hippel-Lindau tumor suppressor protein. J. Biol. Chem. 277: 4656-4662.
3. Curcio-Morelli, C., Zavacki, A.M., Christofollete, M., Gereben, B., de Freitas, B.C., Harney, J.W., Li, Z., Wu, G. and Bianco, A.C. 2003. Deubiquitination of type 2 iodothyronine deiodinase by von Hippel-Lindau protein-interacting deubiquitinating enzymes regulates thyroid hormone activation. J. Clin. Invest. 112: 189-196.
4. 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.
5. Combaret, L., Adegoke, O.A., Bedard, N., Baracos, V., Attaix, D. and Wing, S.S. 2005. USP19 is a ubiquitin-specific protease regulated in rat skeletal muscle during catabolic states. Am. J. Physiol. Endocrinol. Metab. 288: E693-E700.
6. Li, Z., Wang, D., Messing, E.M. and Wu, G. 2005. VHL protein-interacting deubiquitinating enzyme 2 deubiquitinates and stabilizes HIF-1α. EMBO Rep. 6: 373-378.
7. Allen, M.D. and Bycroft, M. 2007. The solution structure of the ZnF UBP domain of USP33/VDU1. Protein Sci. 16: 2072-2075.
8. Hassink, G.C., Zhao, B., Sompallae, R., Altun, M., Gastaldello, S., Zinin, N.V., Masucci, M.G. and Lindsten, K. 2009. The ER-resident ubiquitin-specific protease 19 participates in the UPR and rescues ERAD substrates. EMBO Rep. 10: 755-761.
9. Lu, Y., Adegoke, O.A., Nepveu, A., Nakayama, K.I., Bedard, N., Cheng, D., Peng, J. and Wing, S.S. 2009. USP19 deubiquitinating enzyme supports cell proliferation by stabilizing KPC1, a ubiquitin ligase for p27Kip1. Mol. Cell. Biol. 29: 547-558.

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: USP19 (human) mapping to 3p21.31; Usp19 (mouse) mapping to 9 F2.

SOURCE

USP19 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of USP19 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-99713 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USP19 (S-16) is recommended for detection of USP19 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 USP19-2.

USP19 (S-16) is also recommended for detection of USP19 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for USP19 siRNA (h): sc-78424, USP19 siRNA (m): sc-154944, USP19 shRNA Plasmid (h): sc-78424-SH, USP19 shRNA Plasmid (m): sc-154944-SH, USP19 shRNA (h) Lentiviral Particles: sc-78424-V and USP19 shRNA (m) Lentiviral Particles: sc-154944-V.

Molecular Weight of USP19: 146 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 or our catalog for detailed protocols and support products.