

USP33 (N-18): sc-82095

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. USP33 (ubiquitin specific peptidase 33), also known as VDU1 (VHL-interacting deubiquitinating enzyme 1), is a widely expressed 942 amino acid protein that belongs to the peptidase C19 family of proteins. Containing two DUSP domains and a UBP-type zinc finger, USP33 functions as deubiquitinating enzyme that cleaves ubiquitin residues from both ubiquitinated proteins and ubiquitin-fused precursors, thereby saving these proteins from proteasomal degradation. In addition, USP33 binds VHL and can be ubiquitinated for degradation in a VHL-dependent manner. Three isoforms of USP33 are expressed due to alternative splicing events.

REFERENCES

- Li, Z., et al. 2002. Identification of a deubiquitinating enzyme subfamily as substrates of the von Hippel-Lindau tumor suppressor. *Biochem. Biophys. Res. Commun.* 294: 700-709.
- Li, Z., et al. 2002. Ubiquitination of a novel deubiquitinating enzyme requires direct binding to von Hippel-Lindau tumor suppressor protein. *J. Biol. Chem.* 277: 4656-4662.
- Curcio-Morelli, C., et al. 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.
- Puente, X.S., et al. 2003. Human and mouse proteases: a comparative genomic approach. *Nat. Rev. Genet.* 4: 544-558.
- Bianco, A.C. 2004. Triplets! Unexpected structural similarity among the three enzymes that catalyze initiation and termination of thyroid hormone effects. *Arq. Bras. Endocrinol. Metabol.* 48: 16-24.
- Bianco, A.C. and Larsen, P.R. 2005. Cellular and structural biology of the deiodinases. *Thyroid* 15: 777-786.
- De Pittà, C., et al. 2005. A leukemia-enriched cDNA microarray platform identifies new transcripts with relevance to the biology of pediatric acute lymphoblastic leukemia. *Haematologica* 90: 890-898.

CHROMOSOMAL LOCATION

Genetic locus: USP33 (human) mapping to 1p31.1; Usp33 (mouse) mapping to 3 H3.

SOURCE

USP33 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of USP33 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-82095 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

USP33 (N-18) is recommended for detection of USP33 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.

Suitable for use as control antibody for USP33 siRNA (h): sc-76839, USP33 siRNA (m): sc-76840, USP33 shRNA Plasmid (h): sc-76839-SH, USP33 shRNA Plasmid (m): sc-76840-SH, USP33 shRNA (h) Lentiviral Particles: sc-76839-V and USP33 shRNA (m) Lentiviral Particles: sc-76840-V.

Molecular Weight of USP33: 107 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

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.



Try **USP33 (1D7): sc-100632**, our highly recommended monoclonal alternative to USP33 (N-18).