

USP21 (h): 293T Lysate: sc-111636

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., Krantz, B., Russell, N.S., Deshpande, S. and Wilkinson, K.D. 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., Kamitani, T., Millas, S. and Yeh, E.T. 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., Zhai, L., Yang, C., Nie, S., Erdjument-Bromage, H., Tempst, P., Chang, C. and Wang, H. 2007. Regulation of cell cycle progression and gene expression by H2A deubiquitination. *Nature* 449: 1068-1072.
7. Nakagawa, T., Kajitani, T., Togo, S., Masuko, N., Ohdan, H., Hishikawa, Y., Koji, T., Matsuyama, T., Ikura, T., Muramatsu, M. and Ito, T. 2008. Deubiquitylation of Histone H2A activates transcriptional initiation via *trans*-histone cross-talk with H3K4 di- and trimethylation. *Genes Dev.* 22: 37-49.

CHROMOSOMAL LOCATION

Genetic locus: USP21 (human) mapping to 1q23.3.

PRODUCT

USP21 (h): 293T Lysate represents a lysate of human USP21 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

USP21 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive USP21 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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