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- Expressversand

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# UFSP1 (m): 293T Lysate: sc-124445

## BACKGROUND

UFM1 (ubiquitin-fold modifier 1) is a ubiquitin-like protein that is conjugated to target proteins by UBA5, an E1-like activating enzyme, and Ufc1, an E2-like conjugating enzyme. Through these interactions, UFM1 conjugates to target proteins by a covalent linkage. UFSP1 (Ufm1-specific protease 1) is a 142 amino acid thiol protease that cleaves UFM1 precursor and leads to exposure of its conserved C-terminal glycine, a step required prior to conjugation to target proteins. UFSP1 is also capable of releasing UFM1 from UFM1-conjugated cellular proteins. The gene encoding UFSP1 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

## REFERENCES

1. Tanaka, K., et al. 1998. The ligation systems for ubiquitin and ubiquitin-like proteins. *Mol. Cells* 8: 503-512.
2. Wilson, M.D., et al. 2001. Comparative analysis of the gene-dense ACHE/TFR2 region on human chromosome 7q22 with the orthologous region on mouse chromosome 5. *Nucleic Acids Res.* 29: 1352-1365.
3. Komatsu, M., et al. 2004. A novel protein-conjugating system for Ufm1, a ubiquitin-fold modifier. *EMBO J.* 23: 1977-1986.
4. Kang, S.H., et al. 2007. Two novel ubiquitin-fold modifier 1 (Ufm1)-specific proteases, UfSP1 and UfSP2. *J. Biol. Chem.* 282: 5256-5262.
5. Ha, B.H., et al. 2008. Structural basis for Ufm1 processing by UfSP1. *J. Biol. Chem.* 283: 14893-14900.
6. Eijgelsheim, M., et al. 2010. Genome-wide association analysis identifies multiple loci related to resting heart rate. *Hum. Mol. Genet.* 19: 3885-3894.
7. Tatsumi, K., et al. 2010. A novel type of E3 ligase for the Ufm1 conjugation system. *J. Biol. Chem.* 285: 5417-5427.

## CHROMOSOMAL LOCATION

Genetic locus: Ufsp1 (mouse) mapping to 5 G2.

## PRODUCT

UFSP1 (m): 293T Lysate represents a lysate of mouse UFSP1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

UFSP1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive UFSP1 antibodies. Recommended use: 10-20 µl per lane.

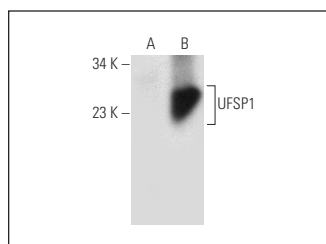
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

UFSP1 (H-3): sc-398577 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse UFSP1 expression in UFSP1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



UFSP1 (H-3): sc-398577. Western blot analysis of UFSP1 expression in non-transfected: sc-117752 (A) and mouse UFSP1 transfected: sc-124445 (B) 293T whole cell lysates.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.