

# UFSP1 (H-54): sc-292067

## 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

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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.
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## CHROMOSOMAL LOCATION

Genetic locus: UFSP1 (human) mapping to 7q22.1; Ufsp1 (mouse) mapping to 5 G2.

## SOURCE

UFSP1 (H-54) is a rabbit polyclonal antibody raised against amino acids 4-57 mapping near the N-terminus of UFSP1 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.

## 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.

## APPLICATIONS

UFSP1 (H-54) is recommended for detection of UFSP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for UFSP1 siRNA (h): sc-89334, UFSP1 siRNA (m): sc-154892, UFSP1 shRNA Plasmid (h): sc-89334-SH, UFSP1 shRNA Plasmid (m): sc-154892-SH, UFSP1 shRNA (h) Lentiviral Particles: sc-89334-V and UFSP1 shRNA (m) Lentiviral Particles: sc-154892-V.

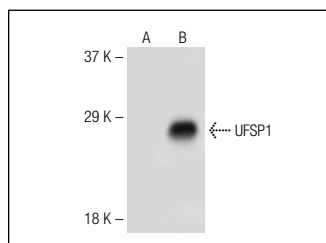
Molecular Weight of UFSP1: 15 kDa.

Positive Controls: UFSP1 (m): 293T Lysate: sc-124445.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



UFSP1 (H-54): sc-292067. Western blot analysis of UFSP1 expression in non-transfected: sc-117752 (A) and mouse UFSP1 transfected: sc-124445 (B) 293T whole cell lysates.

## PROTOCOLS

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