SANTA CRUZ BIOTECHNOLOGY, INC.

UFSP1 (H-3): sc-398577

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

UFSP1 (H-3) is a mouse monoclonal antibody raised against amino acids 4-57 mapping near the N-terminus of UFSP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

UFSP1 (H-3) is available conjugated to agarose (sc-398577 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398577 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398577 PE), fluorescein (sc-398577 FITC), Alexa Fluor® 488 (sc-398577 AF488), Alexa Fluor® 546 (sc-398577 AF546), Alexa Fluor® 594 (sc-398577 AF594) or Alexa Fluor® 647 (sc-398577 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398577 AF680) or Alexa Fluor® 790 (sc-398577 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

UFSP1 (H-3) is recommended for detection of UFSP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

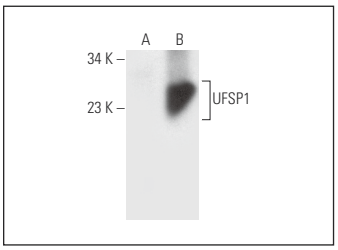
Molecular Weight of UFSP1: 15 kDa.

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

RECOMMENDED 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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.

SELECT PRODUCT CITATIONS

1. Yang, R., et al. 2019. CDK5RAP3, a UFL1 substrate adaptor, is critical for liver development. Development 146: dev169235.
2. Ni, M., et al. 2021. A pathogenic UFSP2 variant in an autosomal recessive form of pediatric neurodevelopmental anomalies and epilepsy. Genet. Med. 23: 900-908.
3. Yan, T., et al. 2024. The UFMylation pathway is impaired in Alzheimer's disease. Mol. Neurodegener. 19: 97.

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.

PROTOCOLS

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