

PSMD4 (F-6): sc-398033

BACKGROUND

In eukaryotic cells, selective breakdown of cellular proteins is ensured by two distinct pathways. First, appropriate proteins are tagged for degradation by ubiquitination. Second, these multiubiquitinated proteins are degraded by the highly selective 26S Proteasome protein-destroying machinery. At specific stages of development, embryo- and tissue-specific components of the 26S Proteasome are formed, which are termed Rpn10a through Rpn10e. All members of this family can be generated by a single PSMD4 gene by developmentally regulated alternative splicing. PSMD4, originally identified as S5a (also designated antisecretory factor and multiubiquitin chain binding protein) is ubiquitously expressed and may perform proteolysis constitutively in a wide variety of cells. Rpn10D and Rpn10E may have embryo- or tissue-specific expression and may play specialized roles in early embryonic development.

REFERENCE

1. Lonnroth, I. and Lange, S. 1986. Purification and characterization of the antisecretory factor: a protein in the central nervous system and in the gut which inhibits intestinal hypersecretion induced by cholera toxin. *Biochim. Biophys. Acta* 883: 138-144.
2. Johansson, E., et al. 1995. Molecular cloning and expression of a pituitary gland protein modulating intestinal fluid secretion. *J. Biol. Chem.* 270: 20615-20620.
3. Coux, O., et al. 1996. Structure and functions of the 20S and 26S Proteasomes. *Annu. Rev. Biochem.* 65: 801-847.
4. Voges, D., et al. 1999. The 26S Proteasome: a molecular machine designed for controlled proteolysis. *Annu. Rev. Biochem.* 68: 1015-1068.
5. Kawahara, H., et al. 2000. Developmentally regulated, alternative splicing of the Rpn10 gene generates multiple forms of 26S Proteasomes. *EMBO J.* 19: 4144-4153.

CHROMOSOMAL LOCATION

Genetic locus: PSMD4 (human) mapping to 1q21.3; Psmd4 (mouse) mapping to 3 F2.1.

SOURCE

PSMD4 (F-6) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PSMD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSMD4 (F-6) is available conjugated to agarose (sc-398033 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398033 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398033 PE), fluorescein (sc-398033 FITC), Alexa Fluor® 488 (sc-398033 AF488), Alexa Fluor® 546 (sc-398033 AF546), Alexa Fluor® 594 (sc-398033 AF594) or Alexa Fluor® 647 (sc-398033 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398033 AF680) or Alexa Fluor® 790 (sc-398033 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PSMD4 (F-6) is recommended for detection of PSMD4 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

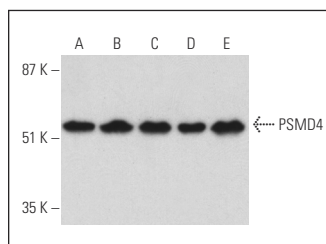
PSMD4 (F-6) is also recommended for detection of PSMD4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PSMD4 siRNA (h): sc-41385, PSMD4 siRNA (m): sc-41386, PSMD4 shRNA Plasmid (h): sc-41385-SH, PSMD4 shRNA Plasmid (m): sc-41386-SH, PSMD4 shRNA (h) Lentiviral Particles: sc-41385-V and PSMD4 shRNA (m) Lentiviral Particles: sc-41386-V.

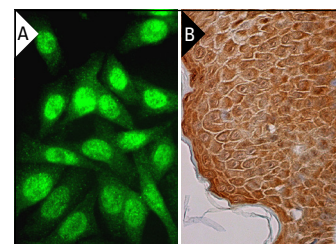
Molecular Weight of PSMD4: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ZR-75-1 cell lysate: sc-2241 or Hep G2 cell lysate: sc-2227.

DATA



PSMD4 (F-6) HRP: sc-398033 HRP. Direct western blot analysis of PSMD4 expression in HeLa (A), SK-MEL-28 (B), ZR-75-1 (C), Jurkat (D) and Hep G2 (E) whole cell lysates.



PSMD4 (F-6): sc-398033. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic and nuclear staining of keratinocytes, Langerhans cells and melanocytes (B).

SELECT PRODUCT CITATIONS

1. Liu, K., et al. 2022. Trypsin-mediated sensitization to ferroptosis increases the severity of pancreatitis in mice. *Cell. Mol. Gastroenterol. Hepatol.* 13: 483-500.

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.

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