SANTA CRUZ BIOTECHNOLOGY, INC.

PSMD4 (AH1.1): sc-53425

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, or alternatively pUb-R2 through pUb-R5. All members of this family can be generated by a single Rpn10 gene by developmentally regulated alternative splicing. The pUb-R2 subunit, 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. pUb-R4 and pUb-R5 may have embryo- or tissue-specific expression and may play specialized roles in early embryonic development.

REFERENCES

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.

SOURCE

PSMD4 (AH1.1) is a mouse monoclonal antibody raised against PSMD4 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

PSMD4 (AH1.1) is recommended for detection of PSMD4 of human and *Xenopus laevis* 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

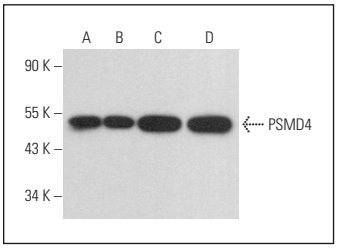
Molecular Weight of PSMD4: 50 kDa.

Positive Controls: CCRF-CEM nuclear extract: sc-2146, HeLa whole cell lysate: sc-2200 or SK-MEL-28 cell lysate: sc-2236.

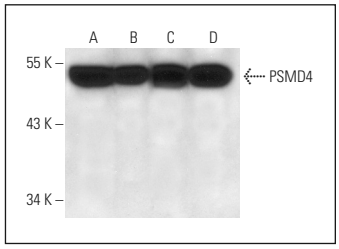
RECOMMENDED SUPPORT REAGENTS

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



PSMD4 (AH1.1): sc-53425. Western blot analysis of PSMD4 expression in HeLa (**A**) and Jurkat (**B**) nuclear extracts and A2058 (**C**) and NCI-H929 (**D**) whole cell lysates.



PSMD4 (AH1.1): sc-53425. Western blot analysis of PSMD4 expression in HeLa (**A**) and SK-MEL-28 (**B**) whole cell lysates and HeLa (**C**) and CCRF-CEM (**D**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Huang, T., et al. 2021. Upregulation of Rpn10 promotes tumor progression via activation of the NF-κB pathway in clear cell renal cell carcinoma. Acta Biochim. Biophys. Sin. 53: 988-996.

RESEARCH USE

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