SANTA CRUZ BIOTECHNOLOGY, INC.

PSMD4 (L-15): sc-13726

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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., Lonnroth, I., Lange, S., Jonson, I., Jennische, E. and Lonnroth, C. 1995. Molecular cloning and expression of a pituitary gland protein modulating intestinal fluid secretion. J. Biol. Chem. 270: 20615-20620.
3. Coux, O., Tanaka, K. and Goldberg, A.L. 1996. Structure and functions of the 20S and 26S proteasomes. Annu. Rev. Biochem. 65: 801-847.
4. Voges, D., Zwickl, P. and Baumeister, W. 1999. The 26S proteasome: a molecular machine designed for controlled proteolysis. Annu. Rev. Biochem. 68: 1015-1068.
5. Kawahara, H., Kasahara, M., Nishiyama, A., Ohsumi, K., Goto, T., Kishimoto, T., Saeki, Y., Yokosawa, H., Shimbara, N., Murata, S., Chiba, T., Suzuki, K. and Tanaka, K. 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 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PSMD4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13726 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13726 X, 200 µg/0.1 ml.

APPLICATIONS

PSMD4 (L-15) is recommended for detection of PSMD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PSMD4 (L-15) is also recommended for detection of PSMD4 in additional species, including equine, bovine, porcine and avian.

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.

PSMD4 (L-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PSMD4: 50 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.