SANTA CRUZ BIOTECHNOLOGY, INC.

PSMD2 (C-10): sc-271584

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotic cells, selective breakdown of cellular proteins is ensured by their ubiquitination and subsequent degradation by the 26S Proteasome. The 26S Proteasome is a protease complex that selectively breaks down proteins that have been modified by polyubiquitin chains. It is made up of two multisubunit complexes: the 20S Proteasome chamber, which serves as the proteolytic core of the complex, and two 19S regulatory particles which recognize and unfold ubiquitinated proteins. PSMD2 (proteasome (prosome, macropain) 26S subunit, non-ATPase 2), also known as S2, TRAP2 (tumor necrosis factor type 1 receptor-associated protein 2) or p97, is a regulatory component of the 26S Proteasome. It is expressed in skeletal muscle, brain, liver, placenta, kidney, pancreas, lung and heart. PSMD2 is one of the non-ATPase regulatory subunits of the 19S regulator lid and is implicated in substrate recognition and binding.

REFERENCES

1. Tsurumi, C., et al. 1996. cDNA cloning and functional analysis of the p97 subunit of the 26S Proteasome, a polypeptide identical to the type 1 tumor-necrosis-factor-receptor-associated protein-2/55.11. Eur. J. Biochem. 239: 912-921.
2. Hampton, R.Y., et al. 1996. Role of 26S Proteasome and HRD genes in the degradation of 3-hydroxy-3-methylglutaryl-CoA reductase, an integral endoplasmic reticulum membrane protein. Mol. Biol. Cell 7: 2029-2044.
3. Wilkinson, C.R., et al. 1997. Mts4, a non-ATPase subunit of the 26 S Protease in fission yeast is essential for mitosis and interacts directly with the ATPase subunit Mts2. J. Biol. Chem. 272: 25768-25777.
4. Dunbar, J.D., et al. 1997. Two-hybrid cloning of a gene encoding TNF receptor-associated protein 2, a protein that interacts with the intracellular domain of the type 1 TNF receptor: identity with subunit 2 of the 26S protease. J. Immunol. 158: 4252-4259.
5. Tan, Y., et al. 2006. Effects of tumor necrosis factor α on the 26S Proteasome and 19S regulator in skeletal muscle of severely scalded mice. J. Burn Care Res. 27: 226-233.
6. Oberdorf, J., et al. 2006. Uncoupling proteasome peptidase and ATPase activities results in cytosolic release of an ER polytopic protein. J. Cell Sci. 119: 303-313.
7. Stanhill, A., et al. 2006. An arsenite-inducible 19S regulatory particle-associated protein adapts proteasomes to proteotoxicity. Mol. Cell 23: 875-885.

CHROMOSOMAL LOCATION

Genetic locus: PSMD2 (human) mapping to 3q27.1; Psmd2 (mouse) mapping to 16 B1.

SOURCE

PSMD2 (C-10) is a mouse monoclonal antibody raised against amino acids 491-790 mapping near the C-terminus of PSMD2 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.

APPLICATIONS

PSMD2 (C-10) is recommended for detection of PSMD2 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 PSMD2 siRNA (h): sc-62900, PSMD2 siRNA (m): sc-62901, PSMD2 shRNA Plasmid (h): sc-62900-SH, PSMD2 shRNA Plasmid (m): sc-62901-SH, PSMD2 shRNA (h) Lentiviral Particles: sc-62900-V and PSMD2 shRNA (m) Lentiviral Particles: sc-62901-V.

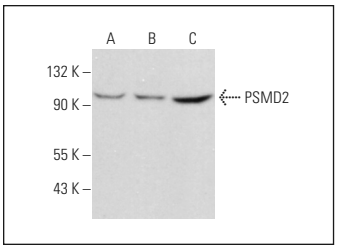
Molecular Weight of PSMD2: 97 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SK-N-SH cell lysate: sc-2410 or Neuro-2A whole cell lysate: sc-364185.

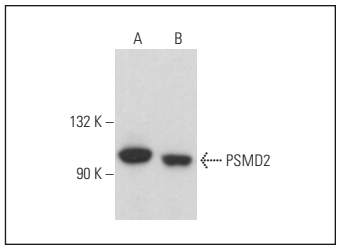
RECOMMENDED SUPPORT REAGENTS

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



PSMD2 (C-10): sc-271584. Western blot analysis of PSMD2 expression in IMR-32 (**A**), Neuro-2A (**B**) and PC-12 (**C**) whole cell lysates.



PSMD2 (C-10): sc-271584. Western blot analysis of PSMD2 expression in SK-N-SH (**A**) and Neuro-2A (**B**) whole cell lysates.

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.