

PSMD2 (A-11): sc-271775



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.

CHROMOSOMAL LOCATION

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

SOURCE

PSMD2 (A-11) 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_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSMD2 (A-11) is available conjugated to agarose (sc-271775 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271775 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271775 PE), fluorescein (sc-271775 FITC), Alexa Fluor® 488 (sc-271775 AF488), Alexa Fluor® 546 (sc-271775 AF546), Alexa Fluor® 594 (sc-271775 AF594) or Alexa Fluor® 647 (sc-271775 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271775 AF680) or Alexa Fluor® 790 (sc-271775 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PSMD2 (A-11) 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). PSMD2 (A-11) is also recommended for detection of PSMD2 in additional species, including equine, canine, bovine and porcine.

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.

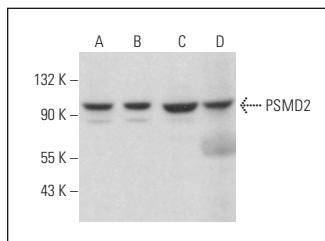
Molecular Weight of PSMD2: 97 kDa.

Positive Controls: BYDP whole cell lysate: sc-364368, Jurkat whole cell lysate: sc-2204 or PC-12 cell lysate: sc-2250.

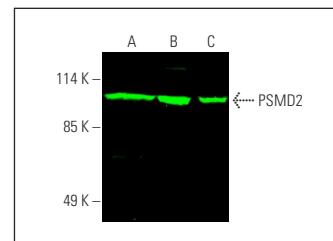
STORAGE

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

DATA



PSMD2 (A-11): sc-271775. Western blot analysis of PSMD2 expression in BYDP (A), 3T3-L1 (B) and PC-12 (C) whole cell lysates and rat skin tissue extract (D).



PSMD2 (A-11): sc-271775. Near-infrared western blot analysis of PSMD2 expression in Jurkat (A), BYDP (B) and 3T3-L1 (C) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

- Guo, X., et al. 2016. Site-specific proteasome phosphorylation controls cell proliferation and tumorigenesis. *Nat. Cell Biol.* 18: 202-212.
- Cohen-Kaplan, V., et al. 2016. p62- and ubiquitin-dependent stress-induced autophagy of the mammalian 26S Proteasome. *Proc. Natl. Acad. Sci. USA* 113: E7490-E7499.
- Li, Y., et al. 2018. PSMD2 regulates breast cancer cell proliferation and cell cycle progression by modulating p21 and p27 proteasomal degradation. *Cancer Lett.* 430: 109-122.
- Njomen, E. and Tepe, J.J. 2019. Regulation of autophagic flux by the 20S Proteasome. *Cell Chem. Biol.* 26: 1283-1294.e5.
- Cheng, Z.L., et al. 2020. The Zscan4-Tet2 transcription nexus regulates metabolic rewiring and enhances proteostasis to promote reprogramming. *Cell Rep.* 32: 107877.
- Wang, H., et al. 2021. The ion channel TRPM7 regulates zinc depletion-induced MDMX degradation. *J. Biol. Chem.* 297: 101292.
- Kotschi, S., et al. 2022. NFE2L1-mediated proteasome function protects from ferroptosis. *Mol. Metab.* 57: 101436.
- Otcenáškova, T., et al. 2023. Proteomic analysis of the mouse sperm acrosome-towards an understanding of an organelle with diverse functionality. *Eur. J. Cell Biol.* 102: 151296.

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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