

PSMD1 (A-3): sc-514809

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. PSMD1 (proteasome (prosome, macropain) 26S subunit, non-ATPase 1), also known as S1 or p112, is a regulatory component of the 26S Proteasome. It is widely expressed with highest expression levels found in skeletal muscle and heart. PSMD1 is the largest of at least 11 non-ATPase regulatory subunits of the 19S regulator lid and is implicated in substrate recognition and binding.

CHROMOSOMAL LOCATION

Genetic locus: PSMD1 (human) mapping to 2q37.1; Psmd1 (mouse) mapping to 1 C5.

SOURCE

PSMD1 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 938-953 at the C-terminus of PSMD1 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.

PSMD1 (A-3) is available conjugated to agarose (sc-514809 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514809 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514809 PE), fluorescein (sc-514809 FITC), Alexa Fluor® 488 (sc-514809 AF488), Alexa Fluor® 546 (sc-514809 AF546), Alexa Fluor® 594 (sc-514809 AF594) or Alexa Fluor® 647 (sc-514809 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514809 AF680) or Alexa Fluor® 790 (sc-514809 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PSMD1 (A-3) is recommended for detection of PSMD1 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 PSMD1 siRNA (h): sc-62898, PSMD1 siRNA (m): sc-62899, PSMD1 shRNA Plasmid (h): sc-62898-SH, PSMD1 shRNA Plasmid (m): sc-62899-SH, PSMD1 shRNA (h) Lentiviral Particles: sc-62898-V and PSMD1 shRNA (m) Lentiviral Particles: sc-62899-V.

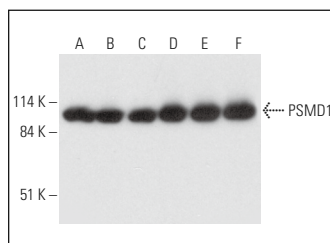
Molecular Weight of PSMD1: 106 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-673 cell lysate: sc-2414 or K-562 whole cell lysate: sc-2203.

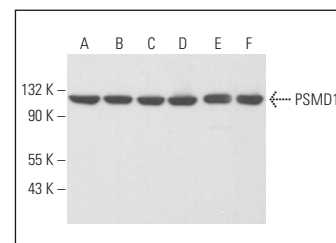
RECOMMENDED SUPPORT REAGENTS

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



PSMD1 (A-3): sc-514809. Western blot analysis of PSMD1 expression in Jurkat (A), HeLa (B), A-673 (C), Sol8 (D), K-562 (E) and HEK293T (F) whole cell lysates.



PSMD1 (A-3): sc-514809. Western blot analysis of PSMD1 expression in Hep G2 (A), HEL 92.1.7 (B), K-562 (C), Caco-2 (D), SW-13 (E) and U-87 MG (F) whole cell lysates.

SELECT PRODUCT CITATIONS

- Jeon, J.H., et al. 2021. The antipsychotic drug clozapine suppresses the RGS4 polyubiquitylation and proteasomal degradation mediated by the Arg/N-degron pathway. *Neurotherapeutics* 18: 1768-1782.
- Lee, J., et al. 2021. Formation of non-nucleoplasmic proteasome foci during the late stage of hyperosmotic stress. *Cells* 10: 2493.
- Kim, S., et al. 2022. Evaluation of immunoproteasome-specific proteolytic activity using fluorogenic peptide substrates. *Immune Netw.* 22: e28.
- Choi, W.H., et al. 2023. ECPAS/Ecm29-mediated 26S Proteasome disassembly is an adaptive response to glucose starvation. *Cell Rep.* 42: 112701.
- Byun, I., et al. 2023. Purification and characterization of different proteasome species from mammalian cells. *STAR Protoc.* 4: 102748.

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.