

PSMC2 (C-1): sc-166972

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 multi-subunit 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. PSMC2 (proteasome 26S subunit ATPase 2), also known as S7 or MSS1, is a 433 amino acid member of the AAA ATPase family. Localized to both the nucleus and the cytoplasm, PSMC2 functions as a chaperone-like subunit of the 19S regulatory complex where it participates in proteasome events throughout the cell. Additionally, PSMC2 is thought to interact with several basal transcription factors and, via this interaction, may play a role in transcriptional regulation. In response to HIV-1 infection, PSMC2 can positively modulate HIV-1 Tat-mediated transactivation, thereby mediating the interaction between the transcription complex and the viral protein.

CHROMOSOMAL LOCATION

Genetic locus: PSMC2 (human) mapping to 7q22.1; Psmc2 (mouse) mapping to 5 A3.

SOURCE

PSMC2 (C-1) is a mouse monoclonal antibody raised against amino acids 29-122 mapping near the N-terminus of PSMC2 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.

PSMC2 (C-1) is available conjugated to agarose (sc-166972 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166972 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166972 PE), fluorescein (sc-166972 FITC), Alexa Fluor® 488 (sc-166972 AF488), Alexa Fluor® 546 (sc-166972 AF546), Alexa Fluor® 594 (sc-166972 AF594) or Alexa Fluor® 647 (sc-166972 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166972 AF680) or Alexa Fluor® 790 (sc-166972 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PSMC2 (C-1) is recommended for detection of PSMC2 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).

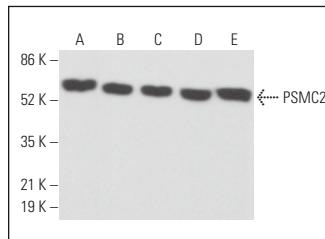
Suitable for use as control antibody for PSMC2 siRNA (h): sc-76273, PSMC2 siRNA (m): sc-76274, PSMC2 shRNA Plasmid (h): sc-76273-SH, PSMC2 shRNA Plasmid (m): sc-76274-SH, PSMC2 shRNA (h) Lentiviral Particles: sc-76273-V and PSMC2 shRNA (m) Lentiviral Particles: sc-76274-V.

Molecular Weight of PSMC2: 49 kDa.

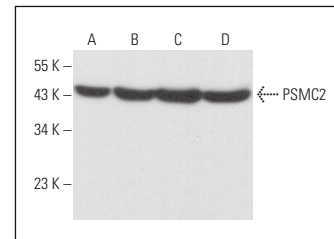
STORAGE

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

DATA



PSMC2 (C-1): sc-166972. Western blot analysis of PSMC2 expression in HeLa (A), MCF7 (B), Hep G2 (C), Daudi (D) and K-562 (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



PSMC2 (C-1): sc-166972. Western blot analysis of PSMC2 expression in EOC 20 (A), C6 (B), PC-12 (C) and Sol8 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Jia, X., et al. 2017. Label-free proteomic analysis of exosomes derived from inducible hepatitis B virus-replicating HepAD38 cell line. *Mol. Cell. Proteomics* 16: S144-S160.
- Direito, I., et al. 2021. Protein aggregation patterns inform about breast cancer response to antiestrogens and reveal the RNA ligase RTCB as mediator of acquired tamoxifen resistance. *Cancers* 13: 3195.
- Zhu, D., et al. 2021. PSMC2/CCND1 axis promotes development of ovarian cancer through regulating cell growth, apoptosis and migration. *Cell Death Dis.* 12: 730.
- 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.
- Wang, T., et al. 2022. Novel compound C150 inhibits pancreatic cancer through induction of ER stress and proteasome assembly. *Front. Oncol.* 12: 870473.
- Choi, W.H., et al. 2023. ECPAS/Ecm29-mediated 26S proteasome disassembly is an adaptive response to glucose starvation. *Cell Rep.* 42: 112701.
- Park, S.H., et al. 2023. Formation of aggresomes with hydrogel-like characteristics by proteasome inhibition. *Biochim. Biophys. Acta Gene Regul. Mech.* 1866: 194932.
- Byun, I., et al. 2023. Purification and characterization of different proteasome species from mammalian cells. *STAR Protoc.* 4: 102748.

RESEARCH USE

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

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