SANTA CRUZ BIOTECHNOLOGY, INC.

PSMD12 (H-3): sc-398279

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 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. PSMD12 (proteasome (prosome, macropain) 26S subunit, non-ATPase, 12), also known as p55 or Rpn5, is a 456 amino acid protein belonging to the proteasome subunit p55 family. PSMD12 acts as a regulatory subunit of the 26S Proteasome and is a component of the PA700 complex. PSMD12 contains one PCI domain.

CHROMOSOMAL LOCATION

Genetic locus: PSMD12 (human) mapping to 17q24.2; Psmd12 (mouse) mapping to 11 E1.

SOURCE

PSMD12 (H-3) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of PSMD12 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.

PSMD12 (H-3) is available conjugated to agarose (sc-398279 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398279 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398279 PE), fluorescein (sc-398279 FITC), Alexa Fluor® 488 (sc-398279 AF488), Alexa Fluor® 546 (sc-398279 AF546), Alexa Fluor® 594 (sc-398279 AF594) or Alexa Fluor® 647 (sc-398279 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398279 AF680) or Alexa Fluor® 790 (sc-398279 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PSMD12 (H-3) is recommended for detection of PSMD12 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).

PSMD12 (H-3) is also recommended for detection of PSMD12 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PSMD12 siRNA (h): sc-93915, PSMD12 siRNA (m): sc-152558, PSMD12 shRNA Plasmid (h): sc-93915-SH, PSMD12 shRNA Plasmid (m): sc-152558-SH, PSMD12 shRNA (h) Lentiviral Particles: sc-93915-V and PSMD12 shRNA (m) Lentiviral Particles: sc-152558-V.

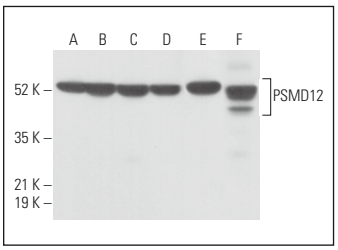
Molecular Weight of PSMD12: 53 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, COLO 205 whole cell lysate: sc-364177 or Hep G2 cell lysate: sc-2227.

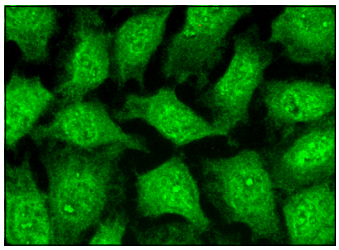
STORAGE

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

DATA



PSMD12 (H-3): sc-398279. Western blot analysis of PSMD12 expression in HeLa (**A**), Jurkat (**B**), Hep G2 (**C**), COLO 205 (**D**) and RAW 264.7 (**E**) whole cell lysates and rat colon tissue extract (**F**).



PSMD12 (H-3): sc-398279. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Kury, S., et al. 2017. *De novo* disruption of the proteasome regulatory subunit PSMD12 causes a syndromic neurodevelopmental disorder. Am. J. Hum. Genet. 100: 352-363.
2. Poli, M.C., et al. 2018. Heterozygous truncating variants in POMP escape nonsense-mediated decay and cause a unique immune dysregulatory syndrome. Am. J. Hum. Genet. 102: 1126-1142.
3. Woodle, E.S., et al. 2020. Proteasomal adaptations underlying carfilzomib-resistance in human bone marrow plasma cells. Am. J. Transplant. 20: 399-410.
4. Yan, K., et al. 2022. Haploinsufficiency of PSMD12 causes proteasome dysfunction and subclinical autoinflammation. Arthritis Rheumatol. 74: 1083-1090.
5. Ma, J., et al. 2023. PSMD12 interacts with CDKN3 and facilitates pancreatic cancer progression. Cancer Gene Ther. 30: 1072-1083.
6. Deb, W., et al. 2024. PSMD11 loss-of-function variants correlate with a neurobehavioral phenotype, obesity, and increased interferon response. Am. J. Hum. Genet. 111: 1352-1369.

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.