SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome α3 (A-9): sc-166205

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The proteasome represents a large protein complex that exists inside all eukaryotes and archaea, and in some bacteria. The main function of proteasomes is to degrade unnecessary or damaged proteins by proteolysis. The most common form of the proteasome, known as the 26S Proteasome, contains one 20S Proteasome core particle structure and two 19S regulatory caps. The 20S Proteasome core is hollow and forms an enclosed cavity, where proteins are degraded, as well as openings at the two ends to allow the target protein to enter. The 20S Proteasome core particle contains many subunits, depending on the organism. All of the subunits fall into one of two types: α subunits, which are structural, serve as docking domains for the regulatory particles and exterior gates blocking unregulated access to the interior cavity; or β subunits, which are predominantly catalytic. The outer two rings in the proteasome consist of seven α subunits each, and the inner two rings each consist of seven β subunits.

REFERENCES

1. Kristensen, P., et al. 1994. Human proteasome subunits from two-dimensional gels identified by partial sequencing. Biochem. Biophys. Res. Commun. 205: 1785-1789.
2. Morimoto, Y., et al. 1995. Ordered structure of the crystallized bovine 20S Proteasome. J. Biochem. 117: 471-474.
3. Wenzel, T., et al. 1995. Conformational constraints in protein degradation by the 20S Proteasome. Nat. Struct. Biol. 2: 199-204.

CHROMOSOMAL LOCATION

Genetic locus: PSMA3 (human) mapping to 14q23.1; Psma3 (mouse) mapping to 12 C3.

SOURCE

20S Proteasome α3 (A-9) is a mouse monoclonal antibody raised against amino acids 131-255 mapping at the C-terminus of 20S Proteasome α3 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.

20S Proteasome α3 (A-9) is available conjugated to agarose (sc-166205 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166205 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166205 PE), fluorescein (sc-166205 FITC), Alexa Fluor® 488 (sc-166205 AF488), Alexa Fluor® 546 (sc-166205 AF546), Alexa Fluor® 594 (sc-166205 AF594) or Alexa Fluor® 647 (sc-166205 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166205 AF680) or Alexa Fluor® 790 (sc-166205 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

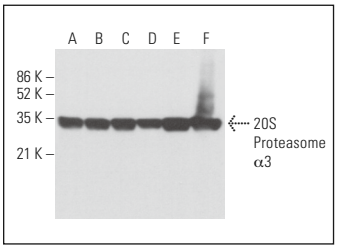
20S Proteasome α3 (A-9) is recommended for detection of 20S Proteasome α3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistoche-mistry (including paraffin-embedded sections) (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 20S Proteasome α3 siRNA (h): sc-62878, 20S Proteasome α3 siRNA (m): sc-62879, 20S Proteasome α3 shRNA Plasmid (h): sc-62878-SH, 20S Proteasome α3 shRNA Plasmid (m): sc-62879-SH, 20S Proteasome α3 shRNA (h) Lentiviral Particles: sc-62878-V and 20S Proteasome α3 shRNA (m) Lentiviral Particles: sc-62879-V.

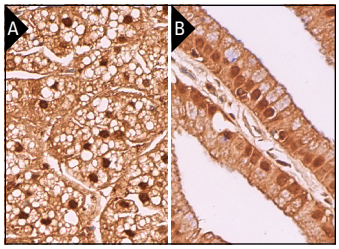
Molecular Weight of 20S Proteasome α3: 27 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, TF-1 cell lysate: sc-2412 or HeLa whole cell lysate: sc-2200.

DATA



20S Proteasome α3 (A-9): sc-166205. Western blot analysis of 20S Proteasome α3 expression in HEL 92.1.7 (**A**), TF-1 (**B**), HeLa (**C**), PC-12 (**D**), NIH/3T3 (**E**) and MOLT-4 (**F**) whole cell lysates.



20S Proteasome α3 (A-9): sc-166205. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic and nuclear staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Huang, Y.F., et al. 2014. Isg15 controls p53 stability and functions. Cell Cycle 13: 2200-2210.
2. Njomen, E. and Tepe, J.J. 2019. Regulation of autophagic flux by the 20S Proteasome. Cell Chem. Biol. 26: 1283-1294.e5.
3. Ding, X.Q., et al. 2020. Proteomic profiling of serum exosomes from patients with metastatic gastric cancer. Front. Oncol. 10: 1113.
4. Suarez-Artiles, L., et al. 2022. Pan-claudin family interactome analysis reveals shared and specific interactions. Cell Rep. 41: 111588.
5. Rana, T., et al. 2023. PAI-1 regulation of p53 expression and senescence in type II alveolar epithelial cells. Cells 12: 2008.
6. Luo, H., et al. 2023. Combinations of ivermectin with proteasome inhibitors induce synergistic lethality in multiple myeloma. Cancer Lett. 565: 216218.

RESEARCH USE

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