

20S Proteasome $\alpha 6$ (C-5): sc-271187

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

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

CHROMOSOMAL LOCATION

Genetic locus: PSMA6 (human) mapping to 14q13.2; Psm $\alpha 6$ (mouse) mapping to 12 C1.

SOURCE

20S Proteasome $\alpha 6$ (C-5) is a mouse monoclonal antibody raised against amino acids 46-180 mapping near the N-terminus of 20S Proteasome $\alpha 6$ of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

20S Proteasome $\alpha 6$ (C-5) is available conjugated to agarose (sc-271187 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271187 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271187 PE), fluorescein (sc-271187 FITC), Alexa Fluor[®] 488 (sc-271187 AF488), Alexa Fluor[®] 546 (sc-271187 AF546), Alexa Fluor[®] 594 (sc-271187 AF594) or Alexa Fluor[®] 647 (sc-271187 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271187 AF680) or Alexa Fluor[®] 790 (sc-271187 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

20S Proteasome $\alpha 6$ (C-5) is recommended for detection of 20S Proteasome $\alpha 6$ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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).

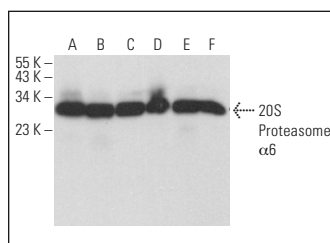
20S Proteasome $\alpha 6$ (C-5) is also recommended for detection of 20S Proteasome $\alpha 6$ in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for 20S Proteasome $\alpha 6$ siRNA (h): sc-62884, 20S Proteasome $\alpha 6$ siRNA (m): sc-62885, 20S Proteasome $\alpha 6$ shRNA Plasmid (h): sc-62884-SH, 20S Proteasome $\alpha 6$ shRNA Plasmid (m): sc-62885-SH, 20S Proteasome $\alpha 6$ shRNA (h) Lentiviral Particles: sc-62884-V and 20S Proteasome $\alpha 6$ shRNA (m) Lentiviral Particles: sc-62885-V.

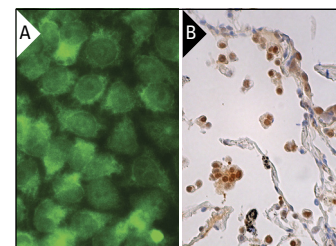
Molecular Weight of 20S Proteasome $\alpha 6$: 27 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MCF7 nuclear extract: sc-2149 or HeLa whole cell lysate: sc-2200.

DATA



20S Proteasome $\alpha 6$ (C-5): sc-271187. Western blot analysis of 20S Proteasome $\alpha 6$ expression in Jurkat (A), PC-12 (B), NIH/3T3 (C), A-431 (D) and HeLa (E) whole cell lysates and MCF7 nuclear extract (F).



20S Proteasome $\alpha 6$ (C-5): sc-271187. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and nuclear staining of pneumocytes and macrophages (B).

SELECT PRODUCT CITATIONS

- Yang, J., et al. 2016. iTRAQ-based proteomics identification of serum biomarkers of two chronic hepatitis B subtypes diagnosed by traditional Chinese medicine. *Biomed Res. Int.* 2016: 3290260.
- Ding, X.Q., et al. 2020. Proteomic profiling of serum exosomes from patients with metastatic gastric cancer. *Front. Oncol.* 10: 1113.
- Wang, T., et al. 2022. Novel compound C150 inhibits pancreatic cancer through induction of ER stress and proteasome assembly. *Front. Oncol.* 12: 870473.

STORAGE

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