SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome α3 (D-6): sc-166206

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. 1995. 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.
4. Schmidt, M., et al. 1997. Structure and structure formation of the 20S Proteasome. Mol. Biol. Rep. 24: 103-112.
5. Sassa, H., et al. 2000. Primary structural features of the 20S Proteasome subunits of rice *(Oryza sativa).* Gene 250: 61-66.
6. Ferrington, D.A., et al. 2004. Catalytic site-specific inhibition of the 20S Proteasome by 4-hydroxynonenal. FEBS Lett. 578: 217-223.
7. Huang, L., et al. 2006. Comprehensive mass spectrometric analysis of the 20S Proteasome complex. Methods Enzymol. 405: 187-236.

CHROMOSOMAL LOCATION

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

SOURCE

20S Proteasome α3 (D-6) 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.

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 (D-6) 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), 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 α3 (D-6) is also recommended for detection of 20S Proteasome α3 in additional species, including bovine.

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.

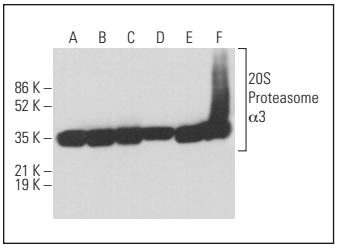
Molecular Weight of 20S Proteasome α3: 27 kDa.

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

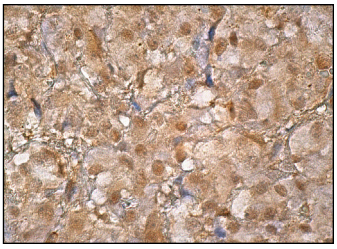
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



20S Proteasome α3 (D-6): sc-166206. 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 (D-6) : sc-166206. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic and nuclear staining of glandular cells.

RESEARCH USE

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