SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome α6 (MCP20): sc-58416

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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

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3. Wenzel, T. and Baumeister, W. 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.
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6. Ferrington, D.A. and Kapphahn, R.J. 2004. Catalytic site-specific inhibition of the 20S Proteasome by 4-hydroxynonenal. FEBS Lett. 578: 217-223.
7. Huang, L. and Burlingame, A.L. 2006. Comprehensive mass spectrometric analysis of the 20S Proteasome complex. Methods Enzymol. 405: 187-236.
8. Madding, L.S., et al. 2006. Role of the β1 subunit in the function and stability of the 20S Proteasome in the hyperthermophilic archaeon *Pyrococcus* furiosus. J. Bacteriol. 189: 583-590.
9. Rydzewski, R.M., et al. 2006. Optimization of subsite binding to the β5 subunit of the human 20S Proteasome using vinyl sulfones and 2-keto-1,3,4-oxadiazoles: syntheses and cellular properties of potent, selective proteasome inhibitors. J. Med. Chem. 49: 2953-2968.

CHROMOSOMAL LOCATION

Genetic locus: PSMA6 (human) mapping to 14q13.2.

SOURCE

20S Proteasome α6 (MCP20) is a mouse monoclonal antibody raised against full length 20S Proteasome α6 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

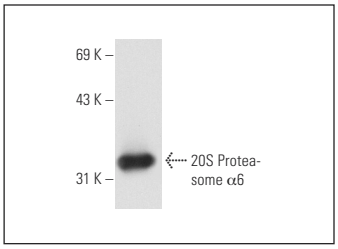
20S Proteasome α6 (MCP20) is recommended for detection of 20S Proteasome α6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 20S Proteasome α6 siRNA (h): sc-62884, 20S Proteasome α6 shRNA Plasmid (h): sc-62884-SH and 20S Proteasome α6 shRNA (h) Lentiviral Particles: sc-62884-V.

Molecular Weight of 20S Proteasome α6: 27 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MCF7 nuclear extract: sc-2149 or HeLa whole cell lysate: sc-2200.

DATA



20S Proteasome α6 (MCP20): sc-58416. Western blot analysis of 20S Proteasome α6 expression in HeLa whole cell lysate.

STORAGE

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

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.