SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome β2 (D-8): sc-515066

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: PSMB2 (human) mapping to 1p34.3; Psmb2 (mouse) mapping to 4 D2.2.

SOURCE

20S Proteasome β2 (D-8) is a mouse monoclonal antibody raised against amino acids 1-201 representing full length 20S Proteasome β2 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 β2 (D-8) is available conjugated to agarose (sc-515066 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515066 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515066 PE), fluorescein (sc-515066 FITC), Alexa Fluor® 488 (sc-515066 AF488), Alexa Fluor® 546 (sc-515066 AF546), Alexa Fluor® 594 (sc-515066 AF594) or Alexa Fluor® 647 (sc-515066 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515066 AF680) or Alexa Fluor® 790 (sc-515066 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

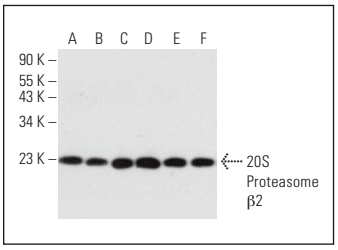
20S Proteasome β2 (D-8) is recommended for detection of 20S Proteasome β2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 20S Proteasome β2 siRNA (h): sc-62866, 20S Proteasome β2 siRNA (m): sc-62867, 20S Proteasome β2 shRNA Plasmid (h): sc-62866-SH, 20S Proteasome β2 shRNA Plasmid (m): sc-62867-SH, 20S Proteasome β2 shRNA (h) Lentiviral Particles: sc-62866-V and 20S Proteasome β2 shRNA (m) Lentiviral Particles: sc-62867-V.

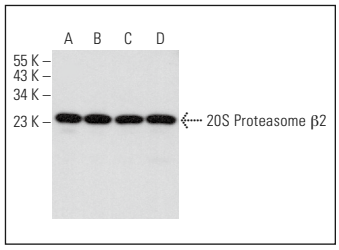
Molecular Weight of 20S Proteasome β2: 23 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caco-2 cell lysate: sc-2262 or NIH/3T3 whole cell lysate: sc-2210.

DATA



20S Proteasome β2 (D-8): sc-515066. Western blot analysis of 20S Proteasome β2 expression in Hep G2 (**A**), Caco-2 (**B**), NIH/3T3 (**C**), Sol8 (**D**), NRK (**E**) and RIN-m5F (**F**) whole cell lysates.



20S Proteasome β2 (D-8): sc-515066. Western blot analysis of 20S Proteasome β2 expression in K-562 (**A**), NTERA-2 cl.D1 (**B**), C2C12 (**C**) and c4 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ou, J., et al. 2018. iPSCs from a hibernator provide a platform for studying cold adaptation and its potential medical applications. Cell 173: 851-863.e16.
2. Guo, Y., et al. 2022. Histone H2A ubiquitination resulting from Brap loss of function connects multiple aging hallmarks and accelerates neurodegeneration. iScience 25: 104519.
3. Luo, H., et al. 2023. Combinations of ivermectin with proteasome inhibitors induce synergistic lethality in multiple myeloma. Cancer Lett. 565: 216218.
4. Okuda, C., et al. 2023. Allantopyrone A interferes with the degradation of hypoxia-inducible factor 1α protein by reducing proteasome activity in human fibrosarcoma HT-1080 cells. J. Antibiot. 76: 324-334.

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.