

20S Proteasome β 2 (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

- Kristensen, P., et al. 1995. 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: PSMB2 (human) mapping to 1p34.3; Psmb2 (mouse) mapping to 4 D2.2.

SOURCE

20S Proteasome β 2 (D-8) is a mouse monoclonal antibody raised against amino acids 1-201 representing full length 20S Proteasome β 2 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 β 2 (D-8) is available conjugated to agarose (sc-515066 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515066 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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 β 2 (D-8) is recommended for detection of 20S Proteasome β 2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 20S Proteasome β 2 siRNA (h): sc-62866, 20S Proteasome β 2 siRNA (m): sc-62867, 20S Proteasome β 2 shRNA Plasmid (h): sc-62866-SH, 20S Proteasome β 2 shRNA Plasmid (m): sc-62867-SH, 20S Proteasome β 2 shRNA (h) Lentiviral Particles: sc-62866-V and 20S Proteasome β 2 shRNA (m) Lentiviral Particles: sc-62867-V.

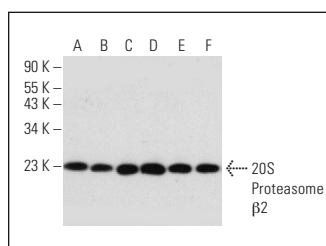
Molecular Weight of 20S Proteasome β 2: 23 kDa.

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

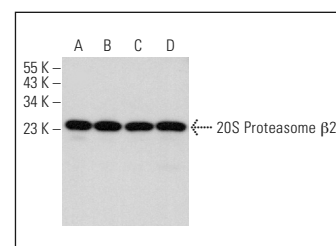
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



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



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

SELECT PRODUCT CITATIONS

- 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.
- Guo, Y., et al. 2022. Histone H2A ubiquitination resulting from Brap loss of function connects multiple aging hallmarks and accelerates neurodegeneration. *iScience* 25: 104519.

RESEARCH USE

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