SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome β5 (A-10): sc-393931

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. 1994. 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.

CHROMOSOMAL LOCATION

Genetic locus: PSMB5 (human) mapping to 14q11.2.

SOURCE

20S Proteasome β5 (A-10) is a mouse monoclonal antibody raised against amino acids 217-263 mapping at the C-terminus of 20S Proteasome β5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

20S Proteasome β5 (A-10) is available conjugated to agarose (sc-393931 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393931 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393931 PE), fluorescein (sc-393931 FITC), Alexa Fluor® 488 (sc-393931 AF488), Alexa Fluor® 546 (sc-393931 AF546), Alexa Fluor® 594 (sc-393931 AF594) or Alexa Fluor® 647 (sc-393931 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393931 AF680) or Alexa Fluor® 790 (sc-393931 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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 β5 (A-10) is recommended for detection of 20S Proteasome β5 of 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).

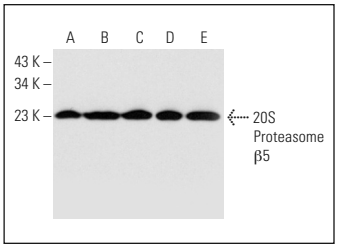
20S Proteasome β5 (A-10) is also recommended for detection of 20S Proteasome β5 in additional species, including bovine.

Suitable for use as control antibody for 20S Proteasome β5 siRNA (h): sc-62872, 20S Proteasome β5 shRNA Plasmid (h): sc-62872-SH and 20S Proteasome β5 shRNA (h) Lentiviral Particles: sc-62872-V.

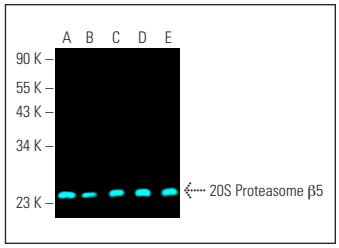
Molecular Weight of 20S Proteasome β5: 23 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

DATA



20S Proteasome β5 (A-10): sc-393931. Western blot analysis of 20S Proteasome β5 expression in Jurkat (**A**), HeLa (**B**), IFN-γ treated HeLa (**C**), MIA PaCa-2 (**D**) and Hep G2 (**E**) whole cell lysates.



20S Proteasome β5 (A-10) Alexa Fluor® 647: sc-393931 AF647. Direct fluorescent western blot analysis of 20S Proteasome β5 expression in PC-3 (**A**), Jurkat (**B**), HeLa (**C**), MIA PaCa-2 (**D**) and Hep G2 (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

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. Zanin, R., et al. 2019. HMGA1 promotes breast cancer angiogenesis supporting the stability, nuclear localization and transcriptional activity of FOXM1. J. Exp. Clin. Cancer Res. 38: 313.
3. Njomen, E. and Tepe, J.J. 2019. Regulation of autophagic flux by the 20S Proteasome. Cell Chem. Biol. 26: 1283-1294.e5.
4. Hsiao, J.C., et al. 2022. A ubiquitin-independent proteasome pathway controls activation of the CARD8 inflammasome. J. Biol. Chem. 298: 102032.
5. Wang, T., et al. 2022. Novel compound C150 inhibits pancreatic cancer through induction of ER stress and proteosome assembly. Front. Oncol. 12: 870473.

RESEARCH USE

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