SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome α5 (B-9): sc-137240

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: PSMA5 (human) mapping to 1p13.3; Psma5 (mouse) mapping to 3 F3.

SOURCE

20S Proteasome α5 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 195-232 within an internal region of 20S Proteasome α5 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 α5 (B-9) is available conjugated to agarose (sc-137240 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137240 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137240 PE), fluorescein (sc-137240 FITC), Alexa Fluor® 488 (sc-137240 AF488), Alexa Fluor® 546 (sc-137240 AF546), Alexa Fluor® 594 (sc-137240 AF594) or Alexa Fluor® 647 (sc-137240 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137240 AF680) or Alexa Fluor® 790 (sc-137240 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-137240 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

20S Proteasome α5 (B-9) is recommended for detection of 20S Proteasome α5 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).

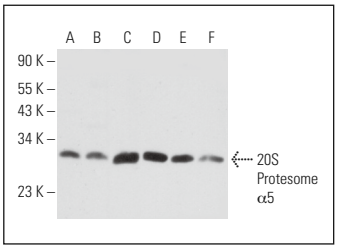
20S Proteasome α5 (B-9) is also recommended for detection of 20S Proteasome α5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for 20S Proteasome α5 siRNA (h): sc-62882, 20S Proteasome α5 siRNA (m): sc-62883, 20S Proteasome α5 shRNA Plasmid (h): sc-62882-SH, 20S Proteasome α5 shRNA Plasmid (m): sc-62883-SH, 20S Proteasome α5 shRNA (h) Lentiviral Particles: sc-62882-V and 20S Proteasome α5 shRNA (m) Lentiviral Particles: sc-62883-V.

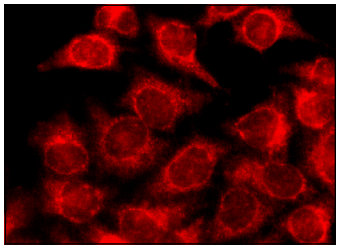
Molecular Weight of 20S Proteasome α5: 23 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, SW480 cell lysate: sc-2219 or NRK whole cell lysate: sc-364197.

DATA



20S Proteasome α5 (B-9): sc-137240. Western blot analysis of 20S Proteasome α5 expression in Caki-1 (**A**), SW480 (**B**), RAW 264.7 (**C**), Neuro-2A (**D**), NRK (**E**) and C6 (**F**) whole cell lysates.



20S Proteasome α5 (B-9): sc-137240. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Succoio, M., et al. 2015. Proteomic analysis reveals novel common genes modulated in both replicative and stress-induced senescence. J. Proteomics 128: 18-29.
2. Wang, T., et al. 2022. Novel compound C150 inhibits pancreatic cancer through induction of ER stress and proteosome assembly. Front. Oncol. 12: 870473.

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.