SANTA CRUZ BIOTECHNOLOGY, INC.

20S Proteasome β1 (D-9): sc-374405

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.

CHROMOSOMAL LOCATION

Genetic locus: PSMB1 (human) mapping to 6q27; Psmb1 (mouse) mapping to 17 A2.

SOURCE

20S Proteasome β1 (D-9) is a mouse monoclonal antibody raised against amino acids 1-241 representing full length 20S Proteasome β1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

20S Proteasome β1 (D-9) is available conjugated to agarose (sc-374405 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374405 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374405 PE), fluorescein (sc-374405 FITC), Alexa Fluor® 488 (sc-374405 AF488), Alexa Fluor® 546 (sc-374405 AF546), Alexa Fluor® 594 (sc-374405 AF594) or Alexa Fluor® 647 (sc-374405 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374405 AF680) or Alexa Fluor® 790 (sc-374405 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

20S Proteasome β1 (D-9) is recommended for detection of 20S Proteasome β1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

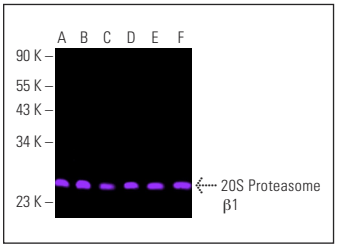
Suitable for use as control antibody for 20S Proteasome β1 siRNA (h): sc-62864, 20S Proteasome β1 siRNA (m): sc-62865, 20S Proteasome β1 shRNA Plasmid (h): sc-62864-SH, 20S Proteasome β1 shRNA Plasmid (m): sc-62865-SH, 20S Proteasome β1 shRNA (h) Lentiviral Particles: sc-62864-V and 20S Proteasome β1 shRNA (m) Lentiviral Particles: sc-62865-V.

Molecular Weight of 20S Proteasome β1: 25 kDa.

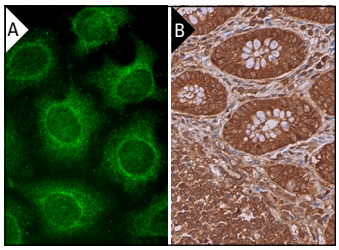
STORAGE

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

DATA



20S Proteasome β1 (D-9): sc-374405. Fluorescent western blot analysis of 20S Proteasome β1 expression in JAR (**A**), K-562 (**B**), HeLa (**C**), U-251-MG (**D**), NIH/3T3 (**E**) and KNRK (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG Fc BP-CFL 555: sc-533654.



20S Proteasome β1 (D-9): sc-374405. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic and nuclear staining of glandular cells and lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Beilstein, F., et al. 2015. Characterization of the interaction between the matrix protein of vesicular stomatitis virus and the immunoproteasome subunit LMP2. J. Virol. 89: 11019-11029.
2. Lawson, A.P., et al. 2017. Identification of deubiquitinase targets of isothiocyanates using SILAC-assisted quantitative mass spectrometry. Oncotarget 8: 51296-51316.
3. Caudron-Herger, M., et al. 2019. R-DeeP: proteome-wide and quantitative identification of RNA-dependent proteins by density gradient ultracentrifugation. Mol. Cell 75: 184-199.e10.
4. Samson, A.L., et al. 2020. MLKL trafficking and accumulation at the plasma membrane control the kinetics and threshold for necroptosis. Nat. Commun. 11: 3151.
5. Caielli, S., et al. 2021. Erythroid mitochondrial retention triggers myeloid-dependent type I interferon in human SLE. Cell 184: 4464-4479.e19.
6. Tencer, A.H., et al. 2022. The ZZ domain of HERC2 is a receptor of arginylated substrates. Sci. Rep. 12: 6063.
7. VerPlank, J.J.S., et al. 2022. Raising cGMP restores proteasome function and myelination in mice with a proteotoxic neuropathy. Brain 145: 168-178.
8. Shi, H., et al. 2022. MG132 protects against lung injury following brain death in rats. Exp. Ther. Med. 24: 687.
9. 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.