

20S Proteasome α 1 (C-7): sc-166073

BACKGROUND

Ubiquitin-dependent proteolysis mediates selective destruction of various cell cycle regulators, transcription factors and tumor suppressors. In eukaryotic cells, selective breakdown of cellular proteins is ensured by their ubiquitination and subsequent degradation by the 26S Proteasome. At specific stages of development, embryo- and tissue-specific components of the 26S Proteasome form, facilitating proteolysis. 20S Proteasome α 1, also designated macropain subunit C2 or PROS-30, is a prosomal protein involved in a non-lysosomal ATP/ubiquitin-dependent proteolytic pathway. The entire proteasome is composed of at least 15 non-identical subunits which form a highly-ordered RING-shaped structure.

CHROMOSOMAL LOCATION

Genetic locus: PSMA1 (human) mapping to 11p15.2; Psm1 (mouse) mapping to 7 F1.

SOURCE

20S Proteasome α 1 (C-7) is a mouse monoclonal antibody raised against amino acids 131-225 mapping near the C-terminus of 20S Proteasome α 1 of human origin.

PRODUCT

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

20S Proteasome α 1 (C-7) is available conjugated to agarose (sc-166073 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166073 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166073 PE), fluorescein (sc-166073 FITC), Alexa Fluor® 488 (sc-166073 AF488), Alexa Fluor® 546 (sc-166073 AF546), Alexa Fluor® 594 (sc-166073 AF594) or Alexa Fluor® 647 (sc-166073 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166073 AF680) or Alexa Fluor® 790 (sc-166073 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

20S Proteasome α 1 (C-7) is recommended for detection of 20S Proteasome α 1 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).

20S Proteasome α 1 (C-7) is also recommended for detection of 20S Proteasome α 1 in additional species, including bovine and porcine.

Suitable for use as control antibody for 20S Proteasome α 1 siRNA (h): sc-45256, 20S Proteasome α 1 siRNA (m): sc-45257, 20S Proteasome α 1 shRNA Plasmid (h): sc-45256-SH, 20S Proteasome α 1 shRNA Plasmid (m): sc-45257-SH, 20S Proteasome α 1 shRNA (h) Lentiviral Particles: sc-45256-V and 20S Proteasome α 1 shRNA (m) Lentiviral Particles: sc-45257-V.

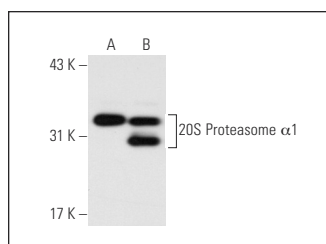
Molecular Weight of 20S Proteasome α 1: 32 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or 20S Proteasome α 1 (h2): 293T Lysate: sc-112756.

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 α 1 (C-7): sc-166073. Western blot analysis of 20S Proteasome α 1 expression in non-transfected: sc-117752 (A) and human 20S Proteasome α 1 transfected: sc-112756 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Huang, Z., et al. 2011. Proteomic analysis of hippocampal proteins of F344 rats exposed to 1-bromopropane. *Toxicol. Appl. Pharmacol.* 257: 93-101.
- Upadhyay, A., et al. 2016. Ibuprofen induces mitochondrial-mediated apoptosis through proteasomal dysfunction. *Mol. Neurobiol.* 53: 6968-6981.
- Ding, Q. and Zhu, H. 2018. Upregulation of PSMB8 and cathepsins in the human brains of dementia with Lewy bodies. *Neurosci. Lett.* 678: 131-137.
- Yang, Q., et al. 2022. PSMA1 mediates tumor progression and poor prognosis of gastric carcinoma by deubiquitinating and stabilizing TAZ. *Cell Death Dis.* 13: 989.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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