

# 20S Proteasome $\alpha$ 7 (GH6): sc-100456

## 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:  $\alpha$  subunits, which are structural, serve as docking domains for the regulatory particles and exterior gates blocking unregulated access to the interior cavity; or  $\beta$  subunits, which are predominantly catalytic. The outer two rings in the proteasome consist of seven  $\alpha$  subunits each, and the inner two rings each consist of seven  $\beta$  subunits.

## CHROMOSOMAL LOCATION

Genetic locus: PSMA7 (human) mapping to 20q13.33, Psma7 (mouse) mapping to 2 H4.

## SOURCE

20S Proteasome  $\alpha$ 7 (GH6) is a mouse monoclonal antibody raised against recombinant 20S Proteasome  $\alpha$ 7 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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  $\alpha$ 7 (GH6) is recommended for detection of 20S Proteasome  $\alpha$ 7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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  $\alpha$ 7 siRNA (h): sc-62886, 20S Proteasome  $\alpha$ 7 siRNA (m): sc-62887, 20S Proteasome  $\alpha$ 7 shRNA Plasmid (h): sc-62886-SH, 20S Proteasome  $\alpha$ 7 shRNA Plasmid (m): sc-62887-SH, 20S Proteasome  $\alpha$ 7 shRNA (h) Lentiviral Particles: sc-62886-V and 20S Proteasome  $\alpha$ 7 shRNA (m) Lentiviral Particles: sc-62887-V.

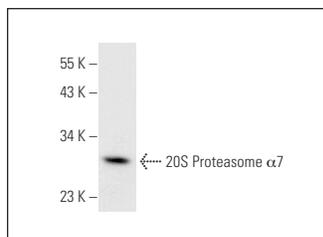
Molecular Weight of 20S Proteasome  $\alpha$ 7: 27 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HeLa nuclear extract: sc-2120 or MCF7 whole cell lysate: sc-2206.

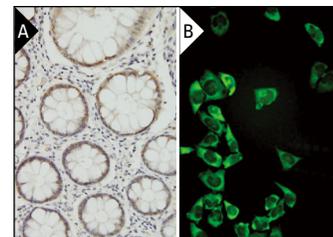
## RESEARCH USE

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

## DATA



20S Proteasome  $\alpha$ 7 (GH6): sc-100456. Western blot analysis of 20S Proteasome  $\alpha$ 7 expression in MCF7 whole cell lysate.



20S Proteasome  $\alpha$ 7 (GH6): sc-100456. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung, adenocarcinoma tissue showing nuclear and cytoplasmic localization (A). Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

- Petersson, J., et al. 2010. The human IFN-inducible p53 target gene TRIM22 colocalizes with the centrosome independently of cell cycle phase. *Exp. Cell Res.* 316: 568-579.
- Kamimura, H., et al. 2012. Reduced NKG2D ligand expression in hepatocellular carcinoma correlates with early recurrence. *J. Hepatol.* 56: 381-388.
- Sklirou, A.D., et al. 2015. Hexapeptide-11 is a novel modulator of the proteostasis network in human diploid fibroblasts. *Redox Biol.* 5: 205-215.
- Kortvely, E., et al. 2016. The unconventional secretion of ARMS2. *Hum. Mol. Genet.* 25: 3143-3151.
- Sklirou, A.D., et al. 2017. 6-bromo-indirubin-3'-oxime (6BIO), a Glycogen synthase kinase-3 $\beta$  inhibitor, activates cytoprotective cellular modules and suppresses cellular senescence-mediated biomolecular damage in human fibroblasts. *Sci. Rep.* 7: 11713.
- Chou, C.F., et al. 2018. The retinoid X receptor agonist, 9-*cis* UAB30, inhibits cutaneous T-cell lymphoma proliferation through the SKP2-p27 Kip1 axis. *J. Dermatol. Sci.* 90: 343-356.
- Dina, E., et al. 2021. An enriched polyphenolic extract obtained from the by-product of *Rosa damascena* hydrodistillation activates antioxidant and proteostatic modules. *Phytomedicine* 93: 153757.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.