

## 20S Proteasome $\alpha 7/\alpha 8$ (B-4): sc-166761

### 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.

### REFERENCES

1. Kristensen, P., et al. 1995. 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.

### CHROMOSOMAL LOCATION

Genetic locus: PSMA7 (human) mapping to 20q13.33, PSMA8 (human) mapping to 18q11.2; PsmA7 (mouse) mapping to 2 H4.

### SOURCE

20S Proteasome  $\alpha 7/\alpha 8$  (B-4) is a mouse monoclonal antibody raised against amino acids 1-248 representing full length 20S Proteasome  $\alpha 7$  of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

20S Proteasome  $\alpha 7/\alpha 8$  (B-4) is available conjugated to agarose (sc-166761 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166761 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166761 PE), fluorescein (sc-166761 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166761 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166761 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166761 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166761 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166761 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166761 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

### 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  $\alpha 7/\alpha 8$  (B-4) is recommended for detection of 20S Proteasome  $\alpha 7$  of mouse, rat and human origin and 20S Proteasome  $\alpha 8$  of human origin by Western Blotting (starting dilution 1:100, 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).

20S Proteasome  $\alpha 7/\alpha 8$  (B-4) is also recommended for detection of 20S Proteasome  $\alpha 7$  and 20S Proteasome  $\alpha 8$  in additional species, including bovine.

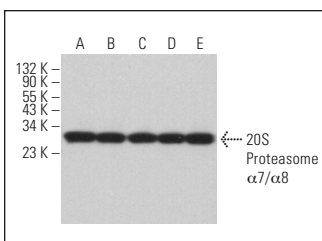
Molecular Weight of 20S Proteasome  $\alpha 7/\alpha 8$ : 28 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MDA-MB-231 cell lysate: sc-2232 or IMR-32 cell lysate: sc-2409.

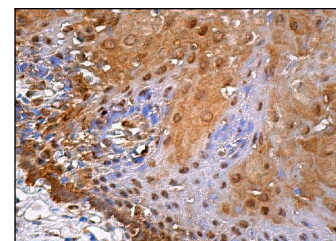
### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

### DATA



20S Proteasome  $\alpha 7/\alpha 8$  (B-4): sc-166761. Western blot analysis of 20S Proteasome  $\alpha 7/\alpha 8$  expression in MCF7 (A), MDA-MB-231 (B), IMR-32 (C), Neuro-2A (D) and AMJ2-C8 (E) whole cell lysates.



Proteasome  $\alpha 7/\alpha 8$  (B-4): sc-166761. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial cells.

### SELECT PRODUCT CITATIONS

1. Yang, J., et al. 2016. iTRAQ-based proteomics identification of serum biomarkers of two chronic hepatitis B subtypes diagnosed by traditional chinese medicine. *Biomed Res. Int.* 2016: 3290260.

### RESEARCH USE

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