

# 20S Proteasome $\alpha$ 5 (Y-17): sc-54722

## 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: PSMA5 (human) mapping to 1p13.3; PsmA5 (mouse) mapping to 3 F3.

## SOURCE

20S Proteasome  $\alpha$ 5 (Y-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 20S Proteasome  $\alpha$ 5 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54722 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

20S Proteasome  $\alpha$ 5 (Y-17) is recommended for detection of 20S Proteasome  $\alpha$ 5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

20S Proteasome  $\alpha$ 5 (Y-17) is also recommended for detection of 20S Proteasome  $\alpha$ 5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for 20S Proteasome  $\alpha$ 5 siRNA (h): sc-62882, 20S Proteasome  $\alpha$ 5 siRNA (m): sc-62883, 20S Proteasome  $\alpha$ 5 shRNA Plasmid (h): sc-62882-SH, 20S Proteasome  $\alpha$ 5 shRNA Plasmid (m): sc-62883-SH, 20S Proteasome  $\alpha$ 5 shRNA (h) Lentiviral Particles: sc-62882-V and 20S Proteasome  $\alpha$ 5 shRNA (m) Lentiviral Particles: sc-62883-V.

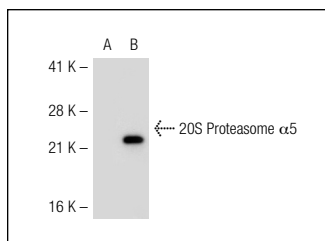
Molecular Weight of 20S Proteasome  $\alpha$ 5: 23 kDa.

Positive Controls: 20S Proteasome  $\alpha$ 5 (h): 293T Lysate: sc-111717, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

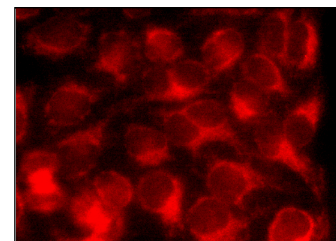
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



20S Proteasome  $\alpha$ 5 (Y-17): sc-54722. Western blot analysis of 20S Proteasome  $\alpha$ 5 expression in non-transfected: sc-117752 (A) and human 20S Proteasome  $\alpha$ 5 transfected: sc-111717 (B) 293T whole cell lysates.



20S Proteasome  $\alpha$ 5 (Y-17): sc-54722. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **20S Proteasome  $\alpha$ 5 (B-9): sc-137240** or **20S Proteasome  $\alpha$ 5 (D-9): sc-271378**, our highly recommended monoclonal alternatives to 20S Proteasome  $\alpha$ 5 (Y-17).