

# cathepsin S (C-19): sc-6503

## BACKGROUND

The cathepsin family of proteolytic enzymes contains several diverse classes of proteases. The cysteine protease class comprises cathepsins B, L, H, K, S, and O. The aspartyl protease class is composed of cathepsins D and E. Cathepsin G is in the serine protease class. Most cathepsins are lysosomal and each is involved in cellular metabolism, participating in various events such as peptide biosynthesis and protein degradation. Cathepsin S has been shown to be an elastolytic cysteine proteinase present in alveolar macrophages.

## CHROMOSOMAL LOCATION

Genetic locus: CTSS (human) mapping to 1q21.3; Ctss (mouse) mapping to 3 F2.1.

## SOURCE

cathepsin S (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of cathepsin S of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-6503 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

cathepsin S (C-19) is recommended for detection of cathepsin S of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cathepsin S (C-19) is also recommended for detection of cathepsin S in additional species, including canine.

Suitable for use as control antibody for cathepsin S siRNA (h): sc-29940, cathepsin S siRNA (m): sc-29941, cathepsin S shRNA Plasmid (h): sc-29940-SH, cathepsin S shRNA Plasmid (m): sc-29941-SH, cathepsin S shRNA (h) Lentiviral Particles: sc-29940-V and cathepsin S shRNA (m) Lentiviral Particles: sc-29941-V.

Molecular Weight of mature cathepsin S: 24 kDa.

Molecular Weight of cathepsin S precursor: 37 kDa.

Positive Controls: cathepsin S (m): 293T Lysate: sc-119040, RAW 264.7 whole cell lysate: sc-2211 or U-87 MG cell lysate: sc-2411.

## RESEARCH USE

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

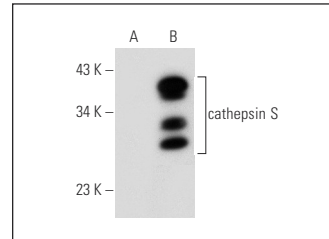
## PROTOCOLS

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

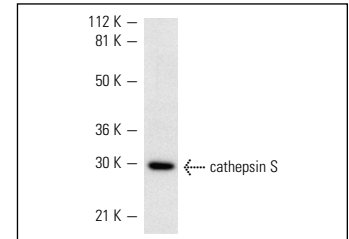
## STORAGE

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

## DATA



cathepsin S (C-19): sc-6503. Western blot analysis of cathepsin S expression in non-transfected: sc-117752 (A) and mouse cathepsin S transfected: sc-119040 (B) 293T whole cell lysates.



cathepsin S (C-19): sc-6503. Western blot analysis of cathepsin S expression in RAW 264.7 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Taggart, C.C., et al. 2003. Inactivation of human  $\beta$ -defensins 2 and 3 by elastolytic cathepsins. *J. Immunol.* 171: 931-937.
2. Wolk, K., et al. 2003. Multiple mechanisms of reduced major histocompatibility complex class II expression in endotoxin tolerance. *J. Biol. Chem.* 278: 18030-18036.
3. Nawata, S., et al. 2003. Electrophoretic analysis of the cleaved form of serpin, squamous cell carcinoma antigen-1 in normal and malignant squamous epithelial tissues. *Electrophoresis* 24: 2277-2282.
4. Maitra, R., et al. 2009. Endosomal damage and TLR2 mediated inflammatory activation by alkane particles in the generation of aseptic osteolysis. *Mol. Immunol.* 47: 175-184.
5. Martino, S., et al. 2011. Coordinated involvement of cathepsins S, D and cystatin C in the commitment of hematopoietic stem cells to dendritic cells. *Int. J. Biochem. Cell Biol.* 43: 775-783.
6. Tiribuzi, R., et al. 2012. Nitric oxide depletion alters hematopoietic stem cell commitment toward immunogenic dendritic cells. *Biochim. Biophys. Acta* 1830: 2830-2838.
7. Mantegazza, A.R., et al. 2012. Adaptor protein-3 in dendritic cells facilitates phagosomal toll-like receptor signaling and antigen presentation to CD4<sup>+</sup> T cells. *Immunity* 36: 782-794.
8. Martino, S., et al. 2013. Expression of cathepsins S and D signals a distinctive biochemical trait in CD34<sup>+</sup> hematopoietic stem cells of relapsing-remitting multiple sclerosis patients. *Mult. Scler.* 19: 1443-1453.


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