

cathepsin S (G-5): sc-74429

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 aveloir macrophages.

CHROMOSOMAL LOCATION

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

SOURCE

cathepsin S (G-5) is a mouse monoclonal antibody raised against amino acids 191-240 of cathepsin S of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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.

PROTOCOLS

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

APPLICATIONS

cathepsin S (G-5) is recommended for detection of cathepsin S of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), 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 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 cathepsin S precursor: 37 kDa.

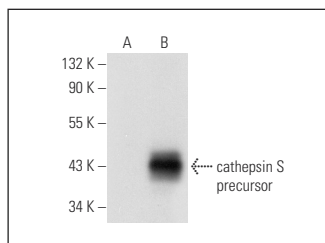
Molecular Weight of mature cathepsin S: 24 kDa.

Positive Controls: cathepsin S (h): 293T Lysate: sc-158354, GA-10 whole cell lysate: sc-364230 or U-87 MG cell lysate: sc-2411.

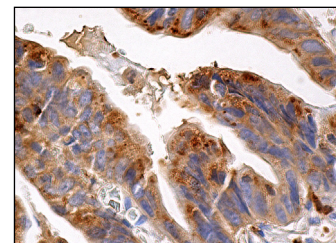
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



cathepsin S (G-5): sc-74429. Western blot analysis of cathepsin S expression in non-transfected: sc-117752 (A) and human cathepsin S transfected: sc-158354 (B) 293T whole cell lysates.



cathepsin S (G-5): sc-74429. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Chen, Y.D., et al. 2017. S100A10 regulates ULK1 localization to ER-mitochondria contact sites in IFN-γ-triggered autophagy. *J. Mol. Biol.* 429: 142-157.
- Chen, Y.D., et al. 2017. Exophagy of annexin A2 via RAB11, RAB8A and RAB27A in IFN-γ-stimulated lung epithelial cells. *Sci. Rep.* 7: 5676.
- Lin, H.H., et al. 2019. Lysosomal cysteine protease cathepsin S is involved in cancer cell motility by regulating store-operated Ca²⁺ entry. *Biochim. Biophys. Acta Mol. Cell Res.* 1866: 118517.
- Ni, H., et al. 2020. Nicotine modulates CTSS (cathepsin S) synthesis and secretion through regulating the autophagy-lysosomal machinery in atherosclerosis. *Arterioscler. Thromb. Vasc. Biol.* 40: 2054-2069.
- Tu, N.H., et al. 2021. cathepsin S evokes PAR₂-dependent pain in oral squamous cell carcinoma patients and preclinical mouse models. *Cancers* 13: 4697.

RESEARCH USE

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



See **cathepsin S (E-3): sc-271619** for cathepsin S antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.