

# cathepsin L (S-20): sc-6500

## 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 L (also designated major excreted protein, MEP or CATL) is a member of the peptidase C1 family and has been identified as a protein that is most closely related to cathepsin H. It is a lysosomal cysteine proteinase that mediates intracellular protein catabolism for collagen, elastin and  $\alpha$ -1 protease inhibitor. cathepsin L is a dimer composed of disulfide-linked heavy and light chains, both produced from a single protein precursor. At least two transcript variants encoding the same protein have been found for this gene. Transformed mouse fibroblasts stimulated by growth factors or tumor promoters secrete a form of cathepsin L.

## CHROMOSOMAL LOCATION

Genetic locus: CTSL (human) mapping to 9q21.33, CTSS (human) mapping to 1q21.3; Ctsl (mouse) mapping to 13 B3, Ctss (mouse) mapping to 3 F2.1.

## SOURCE

cathepsin L (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of cathepsin L 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-6500 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

cathepsin L (S-20) is recommended for detection of cathepsin L, L2 and S 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).

cathepsin L (S-20) is also recommended for detection of cathepsin L, L2 and S in additional species, including porcine.

Molecular Weight of pro-cathepsin L: 38-42 kDa.

Molecular Weight of mature cathepsin L: 25-35 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, rat kidney extract: sc-2394 or NIH/3T3 whole cell lysate: sc-2210.

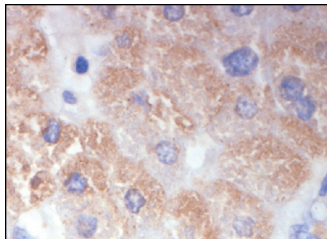
## STORAGE

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

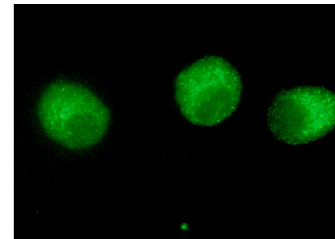
## RESEARCH USE

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

## DATA



cathepsin L (S-20): sc-6500. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tissue showing cytoplasmic localization.



cathepsin L (S-20): sc-6500. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- 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.
- Chen, W., et al. 2005. The lysosome-associated apoptosis-inducing protein containing the Pleckstrin homology (PH) and FYVE domains (LAPF), representative of a novel family of PH and FYVE domain-containing proteins, induces caspase-independent apoptosis via the lysosomal-mitochondrial pathway. *J. Biol. Chem.* 280: 40985-40995.
- Adachi, H., et al. 2005. Widespread nuclear and cytoplasmic accumulation of mutant androgen receptor in SBMA patients. *Brain* 128: 659-670.
- Blander, J.M., et al. 2006. Toll-dependent selection of microbial antigens for presentation by dendritic cells. *Nature* 7085: 808-812.
- Yu, X., et al. 2006. The regulation of exosome secretion: a novel function of the p53 protein. *Cancer Res.* 66: 4795-4801.
- Fehrenbacher, N., et al. 2008. Sensitization to the lysosomal cell death pathway by oncogene-induced down-regulation of lysosome-associated membrane proteins 1 and 2. *Cancer Res.* 68: 6623-6633.
- Tye, C.E., et al. 2009. Lysosomal protease expression in mature enamel. *Cells Tissues Organs* 189: 111-114.
- Boimel, M., et al. 2010. Efficacy and safety of immunization with phosphorylated  $\tau$  against neurofibrillary tangles in mice. *Exp. Neurol.* 224: 472-485.
- Margalef, P., et al. 2012. A truncated form of IKK $\alpha$  is responsible for specific nuclear IKK activity in colorectal cancer. *Cell Rep.* 2: 840-854.

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Try **cathepsin L (33/2): sc-32320** or **cathepsin L (G-11): sc-390367**, our highly recommended monoclonal alternatives to cathepsin L (S-20).