

# cathepsin V (D-12): sc-33920

## BACKGROUND

Cathepsin V (CTSU, CTSV, CATL2, cathepsin U, cathepsin L2) is a lysosomal cysteine proteinase that influences corneal physiology and mediates degradation of invariant chain in human thymus. Cathepsin V is present in corneal epithelium, activated macrophages and colorectal and breast carcinomas. A 1.8 kb mRNA to cathepsin V is present in normal human thymus and testis. Cathepsin V is a member of the peptidase C1 family. Cysteine proteinases are synthesized as proenzymes, which are processed to the corresponding proenzymes. The proenzymes are either targeted to the lysosome or continue along the cellular secretory route.

## REFERENCES

1. Adachi, W., et al. 1998. Isolation and characterization of human cathepsin V: a major proteinase in corneal epithelium. *Invest. Ophthalmol. Vis. Sci.* 39: 1789-1796.
2. Santamaria, I., et al. 1998. Cathepsin L2, a novel human cysteine proteinase produced by breast and colorectal carcinomas. *Cancer Res.* 58: 1624-1630.
3. Itoh, R., et al. 1999. Genomic organization and chromosomal localization of the human cathepsin L2 gene. *DNA Res.* 6: 137-140.
4. Bromme, D., et al. 1999. Human cathepsin V functional expression, tissue distribution, electrostatic surface potential, enzymatic characterization and chromosomal localization. *Biochemistry* 38: 2377-2385.
5. Tolosa, E., et al. 2003. Cathepsin V is involved in the degradation of invariant chain in human thymus and is overexpressed in myasthenia gravis. *J. Clin. Invest.* 112: 517-526
6. Yasuda, Y., et al. 2004. Cathepsin V, a novel and potent elastolytic activity expressed in activated macrophages. *J. Biol. Chem.* 279: 36761-36770.

## CHROMOSOMAL LOCATION

Genetic locus: CTSL2 (human) mapping to 9q22.2.

## SOURCE

cathepsin V (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of cathepsin V 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-33920 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

cathepsin V (D-12) is recommended for detection of cathepsin V of 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).

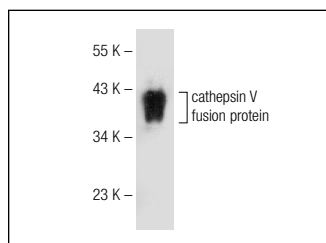
Suitable for use as control antibody for cathepsin V siRNA (h): sc-44526, cathepsin V shRNA Plasmid (h): sc-44526-SH and cathepsin V shRNA (h) Lentiviral Particles: sc-44526-V.

Molecular Weight of cathepsin V: 42 kDa.

## 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



cathepsin V (D-12): sc-33920. Western blot analysis of human recombinant cathepsin V fusion protein.

## PROTOCOLS

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