

cathepsin V (CV55-3G11): sc-32798

BACKGROUND

Cathepsin V (CTSV, 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: CTSV (human) mapping to 9q22.33.

SOURCE

cathepsin V (CV55-3G11) is a mouse monoclonal antibody raised against cathepsin V-specific peptides 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.

cathepsin V (CV55-3G11) is available conjugated to agarose (sc-32798 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32798 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32798 PE), fluorescein (sc-32798 FITC), Alexa Fluor[®] 488 (sc-32798 AF488), Alexa Fluor[®] 546 (sc-32798 AF546), Alexa Fluor[®] 594 (sc-32798 AF594) or Alexa Fluor[®] 647 (sc-32798 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-32798 AF680) or Alexa Fluor[®] 790 (sc-32798 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

cathepsin V (CV55-3G11) 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

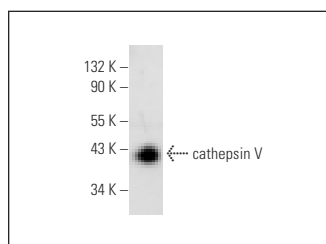
Suitable for use as control antibody for cathepsin V siRNA (h): sc-44526, cathepsin V shRNA Plasmid (h): sc-44526-SH and cathepsin V shRNA (h) Lentiviral Particles: sc-44526-V.

Molecular Weight of cathepsin V: 42 kDa.

RECOMMENDED 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.

DATA



cathepsin V (CV55-3G11): sc-32798. Western blot analysis of human recombinant cathepsin V.

SELECT PRODUCT CITATIONS

1. Huang, K., et al. 2017. Exogenous cathepsin V protein protects human cardiomyocytes HCM from Angiotensin II-induced hypertrophy. *Int. J. Biochem. Cell Biol.* 89: 6-15.

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.

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