

cathepsin D (F-12): sc-374381

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. Cathepsins may also cleave some protein precursors, thereby releasing regulatory peptides. The promoter region of the cathepsin D gene contains five Sp1 binding sites and four AP-2 binding sites.

CHROMOSOMAL LOCATION

Genetic locus: CTSD (human) mapping to 11p15.5; CtSD (mouse) mapping to 7 F5.

SOURCE

cathepsin D (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 69-97 at the N-terminus of cathepsin D 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.

Blocking peptide available for competition studies, sc-374381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

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

cathepsin D (F-12) is also recommended for detection of cathepsin D in additional species, including porcine.

Suitable for use as control antibody for cathepsin D siRNA (h): sc-29239, cathepsin D siRNA (m): sc-29934, cathepsin D siRNA (r): sc-270475, cathepsin D shRNA Plasmid (h): sc-29239-SH, cathepsin D shRNA Plasmid (m): sc-29934-SH, cathepsin D shRNA Plasmid (r): sc-270475-SH, cathepsin D shRNA (h) Lentiviral Particles: sc-29239-V, cathepsin D shRNA (m) Lentiviral Particles: sc-29934-V and cathepsin D shRNA (r) Lentiviral Particles: sc-270475-V.

Molecular Weight of immature cathepsin D: 52-60 kDa.

Molecular Weight of intermediate cathepsin D: 46-48 kDa.

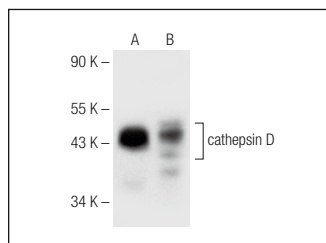
Molecular Weight of mature cathepsin D: 33 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or ZR-75-1 cell lysate: sc-2241.

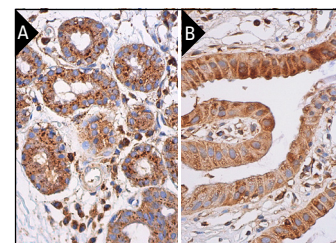
RECOMMENDED SUPPORT REAGENTS

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 D (F-12): sc-374381. Western blot analysis of cathepsin D expression in MCF7 (A) and ZR-75-1 (B) whole cell lysates.



cathepsin D (F-12): sc-374381. Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic staining of glandular cells (A) and human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Jung, J.Y. and Robinson, C.M. 2014. IL-12 and IL-27 regulate the phagolysosomal pathway in mycobacteria-infected human macrophages. *Cell Commun. Signal.* 12: 16.
- Varley, K.E., et al. 2014. Recurrent read-through fusion transcripts in breast cancer. *Breast Cancer Res. Treat.* 146: 287-297.
- Pu, Q., et al. 2021. Bitter receptor TAS2R138 facilitates lipid droplet degradation in neutrophils during *Pseudomonas aeruginosa* infection. *Signal Transduct. Target. Ther.* 6: 210.

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.



See **cathepsin D (D-7): sc-377299** for cathepsin D antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.