SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin H (F-7): sc-398527

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cathepsin H (also designated N-benzoylarginine-β-naphthylamide hydrolase, aleurain, cathepsin B3 or cathepsin BA) is a lysosomal cysteine proteinase that mediates degradation of lysosomal proteins. Cathepsin H is a disulfide-linked heavy and light chain dimer produced from a single precursor protein. The encoded protein, which belongs to the peptidase C1 protein family, can act both as an aminopeptidase and as an endopeptidase. Elevated levels of cathepsin H correlates with malignant progression of prostate tumors. Two transcript variants encoding different isoforms have been found for this gene. Full-length and truncated cathepsin H [12 amino acid deletion in the signal peptide region (CTSHΔ10-21)] are expressed in prostate tissues, LNCaP, PC-3 and DU-145 prostate cancer cell lines. Cathepsin H mediates maturation of the biologically active surfactant protein-B (SP-B) peptide.

CHROMOSOMAL LOCATION

Genetic locus: CTSH (human) mapping to 15q25.1; Ctsh (mouse) mapping to 9 E3.1.

SOURCE

cathepsin H (F-7) is a mouse monoclonal antibody raised against amino acids 151-280 of cathepsin H of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cathepsin H (F-7) is available conjugated to agarose (sc-398527 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398527 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398527 PE), fluorescein (sc-398527 FITC), Alexa Fluor® 488 (sc-398527 AF488), Alexa Fluor® 546 (sc-398527 AF546), Alexa Fluor® 594 (sc-398527 AF594) or Alexa Fluor® 647 (sc-398527 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398527 AF680) or Alexa Fluor® 790 (sc-398527 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

cathepsin H (F-7) is recommended for detection of cathepsin H 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for cathepsin H siRNA (h): sc-29240, cathepsin H siRNA (m): sc-29935, cathepsin H shRNA Plasmid (h): sc-29240-SH, cathepsin H shRNA Plasmid (m): sc-29935-SH, cathepsin H shRNA (h) Lentiviral Particles: sc-29240-V and cathepsin H shRNA (m) Lentiviral Particles: sc-29935-V.

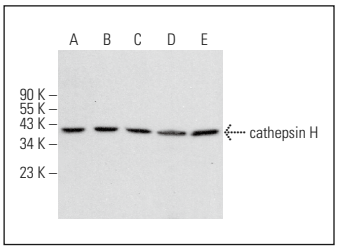
Molecular Weight of cathepsin H: 28 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, EOC 20 whole cell lysate: sc-364187 or C6 whole cell lysate: sc-364373.

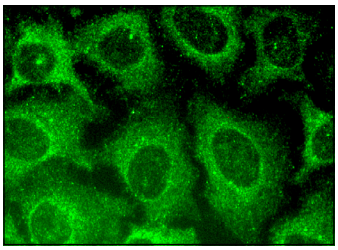
RECOMMENDED SUPPORT REAGENTS

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 H (F-7): sc-398527. Western blot analysis of cathepsin H expression in RAW 264.7 (**A**), EOC 20 (**B**), C6 (**C**), AMJ2-C8 (**D**) and MH-S (**E**) whole cell lysates.



cathepsin H (F-7): sc-398527. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Wang, M., et al. 2022. Acquired semi-squamatization during chemotherapy suggests differentiation as a therapeutic strategy for bladder cancer. Cancer Cell 40: 1044-1059.e8.
2. Chen, Q., et al. 2023. Cathepsin H knockdown reverses radioresistance of hepatocellular carcinoma via metabolic switch followed by apoptosis. Int. J. Mol. Sci. 24: 5257.
3. Calcagni', A., et al. 2023. Loss of the batten disease protein CLN3 leads to mis-trafficking of M6PR and defective autophagic-lysosomal reformation. Nat. Commun. 14: 3911.

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.

PROTOCOLS

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