

cathepsin A (H-53): sc-292167

BACKGROUND

The cathepsin family of proteolytic enzymes include several diverse classes of proteases. Cathepsins B, L, H, K, S and O comprise the cysteine protease class. Cathepsins D and E comprise the aspartyle protease class. The serine protease class includes cathepsin G. Cathepsins function in cellular metabolism and participate in peptide biosynthesis and protein degradation. Cathepsin A, a serine carboxypeptidase, exists in a high molecular weight lysosomal complex with β -galactosidase (β -gal) and α -neuraminidase (Neu1). Cathepsin A functions to protect β -gal and Neu1 from intralysosomal proteolysis. Deficiencies in cathepsin A lead to deficiencies in β -gal and Neu1. The gene encoding human cathepsin A maps to chromosome 20q13.12. Mutations in this gene cause galactosialidosis, a lysosomal storage disorder resulting from the β -gal and Neu1 deficiencies.

REFERENCES

1. Wiegant, J., et al. 1991. The gene encoding human protective protein (PPGB) is on chromosome 20. *Genomics* 10: 345-349.
2. Heusel, J.W., et al. 1993. Molecular cloning, chromosomal location, and tissue-specific expression of the murine cathepsin G gene. *Blood* 81: 1614-1623.
3. Shi, G.P., et al. 1995. Molecular cloning of human cathepsin O, a novel endoproteinase and homologue of rabbit OC2. *FEBS Lett.* 357: 129-134.
4. Tsukuba, T., et al. 2000. New functional aspects of cathepsin D and cathepsin E. *Mol. Cells* 10: 601-611.
5. Ostrowska, H., et al. 2003. Lysosomal high molecular weight multienzyme complex. *Cell. Mol. Biol. Lett.* 8: 19-24.

CHROMOSOMAL LOCATION

Genetic locus: CTSA (human) mapping to 20q13.12; Ctsa (mouse) mapping to 2 H3.

SOURCE

cathepsin A (H-53) is a rabbit polyclonal antibody raised against amino acids 181-233 mapping within an internal region of cathepsin A of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

cathepsin A (H-53) is recommended for detection of cathepsin A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

cathepsin A (H-53) is also recommended for detection of cathepsin A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cathepsin A siRNA (h): sc-41469, cathepsin A siRNA (m): sc-41470, cathepsin A shRNA Plasmid (h): sc-41469-SH, cathepsin A shRNA Plasmid (m): sc-41470-SH, cathepsin A shRNA (h) Lentiviral Particles: sc-41469-V and cathepsin A shRNA (m) Lentiviral Particles: sc-41470-V.

Molecular Weight of cathepsin A: 55 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.


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Try **cathepsin A (4526): sc-73766**, our highly recommended monoclonal alternative to cathepsin A (H-53).