SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin A (19675): sc-73765

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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 20q13.1. Mutations in this gene cause glactosialidosis, a lysosomal storage disorder resulting from the β-Gal and Neu1 deficiencies.

REFERENCES

1. Wiegant, J., Galjart, N.J., Raap, A.K. and d'Azzo, A. 1991. The gene encoding human protective protein (PPGB) is on chromosome 20. Genomics 10: 345-349.
2. Heusel, J.W., Scarpati, E.M., Jenkins, N.A., Gilbert, D.J., Copeland, N.G., Shapiro, S.D. and Ley, T.J. 1993. Molecular cloning, chromosomal location, and tissue-specific expression of the murine cathepsin G gene. Blood 81: 1614-1623.
3. Shi, G.P., Chapman, H.A., Bhairi, S.M., DeLeeuw, C., Reddy, V.Y. and Weiss, S.J. 1995. Molecular cloning of human cathepsin O, a novel endoproteinase and homologue of rabbit OC2. FEBS Lett. 357: 129-134.
4. Tsukuba, T., Okamoto, K., Yasuda, Y., Morikawa, W., Nakanishi, H. and Yamamoto, K. 2000. New functional aspects of cathepsin D and cathepsin E. Mol. Cells 10: 601-611.
5. Ostrowska, H., Krukowska, K., Kalinowska, J., Orlowska, M. and Lengiewicz, I. 2003. Lysosomal high molecular weight multi-enzyme complex. Cell. Mol. Biol. Lett. 8:19-24.

CHROMOSOMAL LOCATION

Genetic locus: Ppgb (mouse) mapping to 2 H3.

SOURCE

cathepsin A (19675) is a rat monoclonal antibody raised against cathepsin A corresponding to amino acids 24-474 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml PBS with < 0.1% sodium azide and protein stabilizer.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

cathepsin A (19675) is recommended for detection of cathepsin A of mouse origin by 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 A siRNA (m): sc-41470, cathepsin A shRNA Plasmid (m): sc-41470-SH and cathepsin A shRNA (m) Lentiviral Particles: sc-41470-V.

Molecular Weight of cathepsin A: 55 kDa.

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.