SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin K (N-20): sc-6507

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. Cathepsin K expression is highest in bone, cartilage and skeletal muscle. The strongest mRNA levels are revealed in osteoclasts.

REFERENCES

1. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin L. FEBS Lett. 223: 69-73.
2. Ishidoh, K., et al. 1987. Molecular cloning and sequencing of cDNA for rat cathepsin H. homology in propeptide regions of cysteine proteases. FEBS Lett. 226: 33-37.

SOURCE

cathepsin K (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of cathepsin K of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6507 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

cathepsin K (N-20) is recommended for detection of cathepsin K of mouse, rat and 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)], 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 K (N-20) is also recommended for detection of cathepsin K in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for cathepsin K siRNA (h): sc-29936, cathepsin K siRNA (m): sc-29937, cathepsin K shRNA Plasmid (h): sc-29936-SH, cathepsin K shRNA Plasmid (m): sc-29937-SH, cathepsin K shRNA (h) Lentiviral Particles: sc-29936-V and cathepsin K shRNA (m) Lentiviral Particles: sc-29937-V.

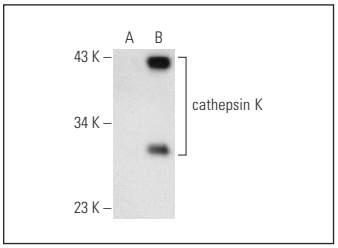
Molecular Weight of cathepsin K: 39 kDa.

Positive Controls: cathepsin K (m): 293T Lysate: sc-119039, RAW 264.7 whole cell lysate: sc-2211 or MCF7 whole cell lysate: sc-2206.

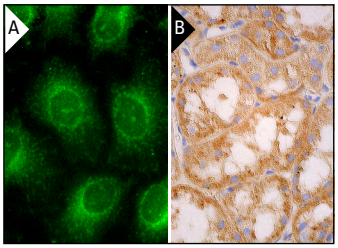
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



cathepsin K (N-20): sc-6507. Western blot analysis of cathepsin K expression in non-transfected: sc-117752 (**A**) and mouse cathepsin K transfected: sc-119039 (**B**) 293T whole cell lysates.



cathepsin K (N-20): sc-6507. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Adachi, H., et al. 2005. Widespread nuclear and cytoplasmic accumulation of mutant androgen receptor in SBMA patients. Brain 128: 659-670.
2. Sulkala, M., et al. 2007. Matrix metalloproteinase-8 (MMP-8) is the major collagenase in human dentin. Arch. Oral Biol. 52: 121-127.
3. Blouin, S., et al. 2008. Interactions between microenvironment and cancer cells in two animal models of bone metastasis. Br. J. Cancer 98: 809-815.
4. Xie, R., et al. 2009. Osteoclast differentiation and recruitment during early stages of experimental tooth movement in rats. Eur. J. Oral Sci. 117: 43-50.
5. Xie, R., et al. 2011. Inflammatory responses in two commonly used rat models for experimental tooth movement: comparison with ligature-induced periodontitis. Arch. Oral Biol. 56: 159-167.
6. Wang, L., et al. 2012. Quercetin, a flavonoid with anti-inflammatory activity, suppresses the development of abdominal aortic aneurysms in mice. Eur. J. Pharmacol. 690: 133-141.

RESEARCH USE

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