SANTA CRUZ BIOTECHNOLOGY, INC.

cathepsin B (C-19)-R: sc-6490-R

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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 B is expressed in luminal epithelial cells, indicating that cathepsin B is a marker for secretory cell death.

CHROMOSOMAL LOCATION

Genetic locus: CTSB (human) mapping to 8p23.1; Ctsb (mouse) mapping to 14 D1.

SOURCE

cathepsin B (C-19)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of cathepsin B 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-6490 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cathepsin B (C-19)-R is recommended for detection of cathepsin B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for cathepsin B siRNA (h): sc-29238, cathepsin B siRNA (m): sc-29933, cathepsin B shRNA Plasmid (h): sc-29238-SH, cathepsin B shRNA Plasmid (m): sc-29933-SH, cathepsin B shRNA (h) Lentiviral Particles: sc-29238-V and cathepsin B shRNA (m) Lentiviral Particles: sc-29933-V.

Molecular Weight of activated cathepsin B: 25 kDa.

Molecular Weight of cathepsin B proenzyme: 37 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211 or WI-38 whole cell lysate: sc-364260.

STORAGE

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

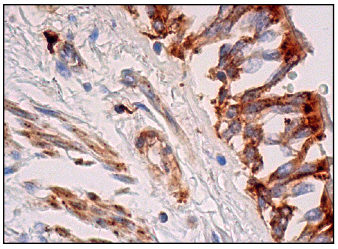
PROTOCOLS

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

RESEARCH USE

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

DATA



cathepsin B (C-19)-R: sc-6490-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Kingham, P.J., et al. 2001. Microglial secreted cathepsin B induces neuronal apoptosis. J. Neurochem. 76: 1475-1484.
2. Favreau, C., et al. 2004. Expression of a mutant lamin A that causes Emery-Dreifuss muscular dystrophy inhibits *in vitro* differentiation of C2C12 myoblasts. Mol. Cell. Biol. 24: 1481-1492.
3. Heinrich, M., et al. 2004. Cathepsin D links TNF-induced acid sphingomyelinase to BID-mediated caspase-9 and -3 activation. Cell Death Differ. 11: 550-563.
4. Singh, C.R., et al. 2006. Processing and presentation of a mycobacterial antigen 85B epitope by murine macrophages is dependent on the phagosomal acquisition of vacuolar proton ATPase and *in situ* activation of cathepsin D. J. Immunol. 177: 3250-3259.
5. Agudo, M., et al. 2009. Immediate upregulation of proteins belonging to different branches of the apoptotic cascade in the retina after optic nerve transection and optic nerve crush. Invest. Ophthalmol. Vis. Sci. 50: 424-431.
6. Luo, C.L., et al. 2011. Autophagy is involved in traumatic brain injury-induced cell death and contributes to functional outcome deficits in mice. Neuroscience 184: 54-63.
7. Ullio, C., et al. 2012. Sphingosine mediates TNFα-induced lysosomal membrane permeabilization and ensuing programmed cell death in hepatoma cells. J. Lipid Res. 53: 1134-1143.