

Product Information

Monoclonal Anti-Procathepsin L

Clone CPLH-2D4

produced in mouse, purified immunoglobulin

Catalog Number **C0994**

Product Description

Monoclonal Anti-Procathepsin L (mouse IgG1 isotype) is derived from the CPLH-2D4 hybridoma produced by the fusion of mouse myeloma cells (P3X63Ag8.653) and splenocytes from mice immunized with recombinant human procathepsin L (Gene ID: 1514). The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. The antibody is purified from culture supernatant of hybridoma cells, grown in a bioreactor.

Monoclonal Anti-Procathepsin L recognizes human and mouse procathepsin L. The antibody may be used in various immunochemical techniques including immunoblotting (~43 kDa), immunocytochemistry, and ELISA.¹

Cathepsins are lysosomal proteases that play an important role in the intracellular degradation of exogenous and endogenous proteins, in activation of enzyme precursors, and in tumor invasion and metastasis. They are normally localized in lysosomes of almost all mammalian cells, but under certain conditions they can be secreted from the cell.²⁻⁵ Cathepsin L is responsible for most of the intra-lysosomal protein breakdown in normal cells.^{4,6} Certain specialized cells like macrophages, osteoclasts and Certoli cells, secrete procathepsin L, the precursor of cathepsin L. Procathepsin L is either directly involved in connective tissue degradation or is indirectly involved, after being activated by acid or limited proteolysis, to become a mature enzyme of several forms.² Like other members of the family (cathepsin B and S) cathepsin L is secreted by numerous transformed cells in its inactive proform. The level of mRNA expression of cathepsin L seems to be correlated with the metastatic potential of transformed cells.^{7,8} Because cathepsin L is capable of degrading protein constituents of the extracellular matrix, this enzyme is thought to play a crucial role in tumor progression, metastasis⁹ and other disorders where the

destruction of the matrix is a major cause of disease.^{10,11} Indeed, inhibition of the enzyme or the proenzyme by low molecular weight inhibitors or by specific antibodies led to a suppression of the invasive capabilities of malignant cells, or a decline in their ability to form tumors in experimental *in vivo* and *in vitro* models.^{8, 12-14}

Reagent

The product is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 5-10 µg/mL is recommended using A549 total cell extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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