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ProductInformation

MONOCLONAL ANTI-CATHEPSIN L
CLONE 33/2
Mouse Ascites Fluid

Product Number **C 2970**

Product Description

Monoclonal Anti-Cathepsin L (mouse IgG1 isotype) is derived from the 33/2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with procathepsin L isolated from the human lung cancer line EPLC 32 M1.[1] The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Cathepsin L reacts specifically with the native and denatured forms of human cathepsin L (25 kDa) and procathepsin L (42 kDa).[1] The antibody recognizes an epitope within amino acid residues GYGFEST (265-271 in procathepsin L and 169-175 in the mature cathepsin L molecule). The antibody may be used for ELISA,[1] immunoblotting,[1] immunohistochemistry (frozen sections) and for the suppression of the malignant growth of myeloma cells. Cross-reactivity has been observed with rat cathepsin L (strong),[1] mouse procathepsin L (weak)[1] and mink cathepsin L and procathepsin L. The product does not react with human cathepsin types B[1], D[1], H and S[1], procathepsins B and D[1] and recombinant procathepsin H, rat cathepsin B[1], and mouse procathepsins B[1] and D[1].

Cathepsins are lysosomal proteases that play an important role in the intracellular degradation of exogenous and endogenous proteins, activation of enzyme precursors, and tumor invasion and metastasis.[1-3] They are normally localized in lysosomes of almost all mammalian cells, but under certain conditions they can be secreted from the cell. Cathepsin L (EC 3.4.22.15) is responsible for most of the intralysosomal protein breakdown of normal cells.[3,4] Certain specialized cells like macrophages, osteoclasts and Certoli cells secrete the precursor of cathepsin L , procathepsin L. Procathepsin L is either directly involved in connective tissue degradation or, is indirectly involved after being activated to certain forms of mature enzyme, by acid activation or limited proteolysis.[1] Like other members of the family (cathepsin B and S) cathepsin L is secreted by numerous transformed cells in its inactive proform,[5,6] and the level of mRNA expression of cathepsin L seems to be correlated with the metastatic potential of transformed cells.[7] 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,metastasis[8,9] and other disorders where the destruction of the matrix is the major cause of disease.[10] 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.[8,11-13] Antibodies that react specifically with cathepsin L are useful for the study of the distribution of cathepsin L and procathepsin L in human malignancies and for relating its concentrations to various biochemical, histological, and clinical characteristics. The antibody producing hybridoma was developed by E. Weber and coworkers, Institute of Physiological Chemistry, Martin Luther University Halle-Wittenberg, Halle, Germany.[1]

Reagents

The product is provided as ascites fluid with 15 mM sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile
A minimum working dilution of 1:200 is determined by immunoblotting using a whole cell extract from a cultured mink lung cell line.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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