Product Information

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Monoclonal Anti-Cathepsin K
Clone CK124-1H6
produced in mouse, purified immunoglobulin

Catalog Number **C8243**

Product Description

Monoclonal Anti-Cathepsin K (mouse IgG2b isotype) is derived from the hybridoma CK124-1H6 produced by the fusion of mouse myeloma cells (P3X63AG8.653) and splenocytes from BALB/c mice immunized with recombinant human cathepsin K (Gene ID: 1513). The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Cathepsin K specifically recognizes human cathepsin K. The antibody epitope resides within the peptide sequence RGYREIPEGNEKAL that corresponds to amino acids 222-235 of human cathepsin K. The antibody does not cross react with the closely related lysosomal cysteine proteases cathepsins L, B, H, S, V, and W. The antibody may be used for ELISA and immunoblotting (~ 27 kDa).

Cathepsins are proteases that play an important role in the intracellular degradation of exogenous and endogenous proteins, activation of enzyme precursors, and 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.[1-4] Cathepsin K (Ctsk) is highly expressed in osteoclasts, and its major recognized functions are in the process of bone remodeling and resorption.[5-7] In addition, broader potential roles of CstK have been revealed by the identification of this protease in a number of other cell and tissue types, including activated macrophages, thyroid, lung, atheroma, and skin. Cathepsin K protein was identified in samples of primary breast carcinoma and prostate cancer, and was found to contribute to the invasive potential of prostate cancers, thyroid carcinoma, lung adenocarcinoma, and breast carcinoma.[8] As in all cysteine cathepsins, the cathepsin K propeptide (the non cleaved cathepsin protein) is responsible for its proper targeting, folding and stability. Interestingly, it was found to inhibit cathepsin K activities and to act as a selective competitive inhibitor of CtsK as well as cathepsins S and L.[9-11] Other inhibitors of this protease were shown to inhibit breast cancer skeletal metastases *in vivo*, both in mice and human.[12, 13]

Reagent

Supplied as a solution in 0.01M PBS, 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 discard if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 10-20 µg/mL is recommended using total cell extracts of HCT-116 cells.

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

References

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