

Recombinant Human Cathepsin B/CTSB (C-6His)

Cat.No # MCB9025

Lot.No : Refer to Vial



Packaging: 10µg 50µg

Description

Cathepsin B is a papain-family cysteine protease that is normally located in lysosomes, where it is involved in the turnover of proteins and plays various roles in maintaining the normal metabolism of cells. This protease has been implicated in pathological conditions, e.g., tumor progression and arthritis. In disease conditions, increases in the expression of cathepsin B occur at both the gene and protein levels. Cathepsin B is synthesized as a preproenzyme and the primary pathways for its normal trafficking to the lysosome utilize mannose 6-phosphate receptors (MPRs). Mature cathepsin B has the ability to degrade several extracellular matrix components at both neutral and acidic pH and has been implicated in the progression of several human and rodent tumors progression and arthritis. Cathepsin B expression is increased in many human cancers at the mRNA, protein and activity levels. It is also frequently overexpressed in premalignant lesions, an observation that associates this protease with local invasive stages of cancer. Increased expression of cathepsin B in primary cancers, and especially in preneoplastic lesions, suggests that this enzyme might have pro-apoptotic features. Active cathepsin B is also secreted from tumours, a mechanism likely to be facilitated by lysosomal exocytosis or extracellular processing by surface activators. Cathepsin B is localized to caveolae on the tumour surface, where binding to the annexin II heterotetramer occurs. Thus CTSB is suggested as a tumor marker. Additionally, Cathepsin B can degrade extracellular matrix proteins, such as collagen IV and laminin, and can activate the precursor form of urokinase plasminogen activator (uPA), perhaps thereby initiating an extracellular proteolytic cascade.

Origin

Recombinant Human Cathepsin B is produced by our Mammalian expression system and the target gene encoding Arg18-Ile339 is expressed with a 6His tag at the C-terminus.

Quality control

Measured by its ability to cleave the fluorogenic peptide substrate Z-LR-AMC. Specific Activity is greater than 17000pmol/min/ug. Greater than 95% as determined by reducing SDS-PAGE.

Dissolution

Always centrifuge tubes before opening. Do not mix by vortex or pipetting. Dissolve the lyophilized protein in 1X PBS. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

Store condition

Store at < -20°C, stable for 6 months after receipt. Please minimize freeze-thaw cycles.

For Research Use Only. Not for use in diagnostic procedures.

