Recombinant Mouse Cathepsin B Protein(Fc Tag)

Catalog Number: PDMM100145

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

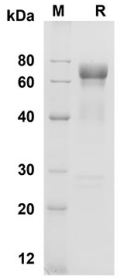
Description

Species	Mouse
Source	Mammalian-derived Mouse Cathepsin B proteins His18-Asp333,with an C-terminal Fc
Calculated MW	59.6 kDa
Observed MW	70 kDa
Accession	P10605
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 ℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Mouse Cathepsin B proteins , 2μg/lane of Recombinant Mouse Cathepsin B proteins was resolved with SDS-PAGE under reducing conditions , showing bands at 70 KD

Background

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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.

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