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Datasheet for ABIN7194667

Cathepsin B Protein (CTSB) (His tag)

Overview

Quantity:	50 µg
Target:	Cathepsin B (CTSB)
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This Cathepsin B protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human Cathepsin B/CTSB Protein (His Tag)(Active)
Sequence:	Arg18-Ile339
Characteristics:	A DNA sequence encoding the pre pro form of human CTSB (Arg18-Ile339) (NP_001899.1) was expressed with a C-terminal polyhistidine tag.
Purity:	> 97 % as determined by reducing SDS-PAGE.
Endotoxin Level:	< 1.0 EU per µg as determined by the LAL method.
Biological Activity Comment:	Measured by its ability to cleave the fluorogenic peptide substrate Z-LR-AMC (R&D Systems, Catalog # ES008). The specific activity is >2,500 pmoles/min/µg.

Target Details

Target:	Cathepsin B (CTSB)
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Target Details

Alternative Name: [Cathepsin B/CTSB \(CTSB Products\)](#)

Background: 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 proenzyme 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.

Synonym: Cathepsin B, APP Secretase, APPS, Cathepsin B1, CTSB, CPSB

Molecular Weight: 37.2 kDa

NCBI Accession: [NP_001899](#)

Pathways: [Activation of Innate immune Response, Toll-Like Receptors Cascades](#)

Application Details

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Please refer to the printed manual for detailed information.

Buffer: Lyophilized from sterile PBS, pH 7.4

Handling

Storage: 4 °C,-20 °C,-80 °C

Storage Comment: Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.