



## Product Datasheet

<b>Product Name</b>	Cystatin B Human Recombinant
<b>Cata No</b>	CB501466
<b>Source</b>	<i>Escherichia Coli.</i>
<b>Synonyms</b>	Cystatin-B, Stefin-B, Liver thiol proteinase inhibitor, CPI-B, CSTB, CST6, EPM1, PME, STFB.

### Description

Type 1 cystatins are also called stefins which function as intracellular thiol protease inhibitors. Cystatin-B protein is able to form a dimer stabilized by noncovalent forces, inhibiting papain and cathepsins I, h and b. CSTB protein protects proteases leakage from lysosomes. Mutations in Stefin-B gene are causes primary defects in patients with progressive myoclonic epilepsy (EPM1), a degenerative disease of the central nervous system. CSTB is overexpressed & elevated in the serum of HCC patients.

Cystatin-B in vivo has a polymeric structure which is sensitive to the redox environment. Cystatin-B inhibits bone resorption by down-regulating intracellular cathepsin K activity despite increased osteoclast survival.

Protein and mRNA levels of stefin B are significantly lower in atypical benign meningiomas. Stefins-A & Stefin-B which belong to the type-1 Cystatins, are up-regulated in lung tumours and thus able to counteract harmful tumour-associated proteolytic activity.

Human stefin-A & Stefin-B form amyloid fibrils. Copper binding by stefin-B reduces amyloid fibril formation.

A number of alternatively spliced CSTB isoforms were recognized in patients with progressive myoclonus epilepsy.

Decreased CSTB activity in EPM1 pathogenesis is controlled by cathepsins through increased activity

of cathepsin-S & cathepsin-L.

CSTB Human Recombinant fused to His-Tag at N-Terminus produced in E.Coli is a single, non-glycosylated polypeptide chain containing 118 amino acids and having a molecular mass of 13 kDa.

### Physical Appearance

Sterile Filtered colorless solution.

### Purity

Greater than 98.0% as determined by:  
(a) Analysis by RP-HPLC.  
(b) Analysis by SDS-PAGE.

### Formulation

The protein solution contains 20mM Tris-HCl pH-8 & 50mM NaCl.

### Stability

Stefin-B although stable 4°C for 4 weeks, should be stored desiccated below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Please prevent freeze-thaw cycles.**

### Sequence

**MGSSHHHHHH SSGLVPRGSH** MMCGAPSATQ  
PATAETQHIA DQVRSQLEEK ENKKFPVFKA  
VSFKSQVVAG TNYFIKVHVG DEDFVHLRVF  
QSLPHENKPL TLSNYQTNKA KHDELTYF

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