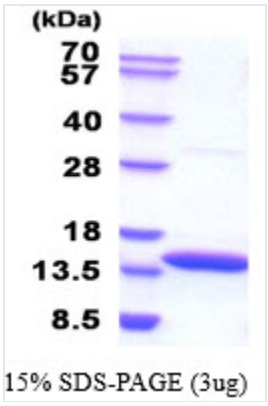
CSTB Active Protein

PRODUCT OVERVIEW

Product Name	CSTB, Active Protein
Full Product Name	CSTB, 1-98aa, Human, His tag, E Coli (Bioactivity Validated)
Product Gene Name	CSTB active protein
Product Synonym Names	Cystatin-B; Stefin B; PME; CST6
Sequence	MGSSHHHHHH SSGLVPRGSH MMCGAPSATQ PATAETQHIA DQVRSQLEEK ENKKFPVFKA VSFKSQVVAG TNYFIKVHVG DEDFVHLRVF QSLPHENKPL TLSNYQTNKA KHDELTYF
Host	E Coli
Form/Format	Liquid. In 20 mM Tris-HCl Buffer (pH 8.0) containing 50mM NaCl
Purity/Purification	> 95% by SDS-PAGE
Concentration	1 mg/ml (determined by Bradford assay) (lot specific)
Preparation and Storage	Can be stored at 4 degree C short term (1-2 weeks). For long term storage, aliquot and store at -20 degree C or -70 degree C. Avoid repeated freezing and thawing cycles.
Molecular Weight	13 kDa (118aa) confirmed by MALDI-TOF
OMIM	U46692 Genomic DNA
3D Structure	ModBase 3D Structure for P04080
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Antigen Species	Human
Tag Information	His-tag
Endotoxin Level	< 1.0 EU per 1 microgram of protein (determined by LAL method)
Biological Activity	The IC50 value is < 3.0nM. The inhibitory function of Cystatin B on protease activity of papain was measured by a fluorometric assay using Z-FR-AMC at pH 7.5 at 25C.
Product Categories/Family for CSTB active protein	Neuroscience; Proteases &Inhibitors; Homeostasis
Applications Tested/Suitable for CSTB active protein	SDS-PAGE
Related Product Information for CSTB active protein	CSTB, also known as Cystatin B is an anti-protease implicated in myoclonus epilepsy, a degenerative disease of the central nervous system. The cystatin superfamily encompasses proteins that contain multiple cystatin-like sequences. Some of the members are active cysteine protease inhibitors, while others have lost or perhaps never acquired this inhibitory activity. This protein is able to form a dimer stabilized by noncovalent forces and is thought to play a role in protecting against the proteases leaking from lysosomes. In cells, CSTB is located in the lysosomes and the cytoplasm, but also in the nucleus. Recombinant CSTB, fused to His-tag, was expressed in E Coli and purified by using conventional chromatography techniques.
Product References and Citations for CSTB active protein	Turk V, et al (1991) FEBS Lett. 285 (2): 213-9. ; Jarvinen M, et al, (1988) Acta Histochem. 82 (1): 5-18.
Other Notes	Small volumes of CSTB active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for CSTB purchase	MBS206247 is an active protein targeting CSTB. Also known as CSTB, 1-98aa, Human, His tag, E Coli (Bioactivity Validated). Host: E Coli.



SDS-Page of CSTB active protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CSTB. It may not necessarily be applicable to this product.

NCBI GI #	4503117
NCBI GeneID	1476
NCBI Accession #	NP_000091
UniProt Primary Accession #	P04080
UniProt Related Accession #	P04080
GenBank Nucleotide #	NM_000100.3
NCBI Official Full Name	cystatin-B
NCBI Official Synonym Full Names	cystatin B
NCBI Official Symbol	CSTB
NCBI Official Synonym Symbols	PME; ULD; CST6; EPM1; STFB; CPI-B; EPM1A
UniProt Protein Name	Cystatin-B
UniProt Synonym Protein Names	CPI-B; Liver thiol proteinase inhibitor; Stefin-B
Protein Family	Cystatin
UniProt Gene Name	CSTB
UniProt Synonym Gene Names	CST6; STFB
NCBI Protein Information	cystatin-B
NCBI Summary for CSTB	The cystatin superfamily encompasses proteins that contain multiple cystatin-like sequences. Some of the members are active cysteine protease inhibitors, while others have lost or perhaps never acquired this inhibitory activity. There are three inhibitory families in the superfamily, including the type 1 cystatins (stefins), type 2 cystatins and kininogens. This gene encodes a stefin that functions as an intracellular thiol protease inhibitor. The protein is able to form a dimer stabilized by noncovalent forces, inhibiting papain and cathepsins l, h and b. The protein is thought to play a role in protecting against the proteases leaking from lysosomes. Evidence indicates that mutations in this gene are responsible for the primary defects in patients with progressive myoclonic epilepsy (EPM1). One type of mutation responsible for EPM1 is the expansion in the promoter region of this gene of a CCCCGCCCCGCG repeat from 2-3 copies to 30-78 copies. [provided by RefSeq, Jul 2016]
UniProt Comments for CSTB	This is an intracellular thiol proteinase inhibitor. Tightly binding reversible inhibitor of cathepsins L, H and B.

Research Articles on CSTB	**1.** The results demonstrate that cystatin B interferes with the STAT-1 signaling and IFN-beta-antiviral responses perpetuating HIV in macrophage reservoirs.
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