Data Sheet (Cat.No.TMPY-00768)

TargetMol

CST6 Protein, Human, Recombinant (His)

General Information

Synonyms:	cystatin E/M
Protein Construction:	A DNA sequence encoding the human cystatin E/M protein (NP_001314.1) (Met 1-Met 149) was expressed with a C-terminal polyhistidine-tag. Predicted N terminal: Arg 29
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q15828
Molecular Weight:	15 kDa (predicted); 15 and 21 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 25 mM MES, 0.15M NaCl, pH 6. 5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cystatin E/M, also referred to as CST6, is a member of type 2 cysteine proteinase inhibitors of the cystatin superfamily, and inhibits papain and cathepsin B. Cystatin E is a low molecular mass secreted protein existing in both a glycosylated (17 kDa) and an unglycosylated (14 kDa) form, with two characteristic intrachain disulfide bridges. Expression of cystatin M/E is found to be restricted to the epidermis, more specifically in the stratum granulosum, sweat glands, sebaceous glands, and the hair follicles. In addition to its function as a cysteine

protease inhibitor, cystatin M/E also serves as a target for cross-linking by transglutaminases. Accordingly, cystatin M/E was suggested to be involved in barrier formation and maintenance. Furthermore, studies have revealed that cystatin M/E is frequently epigenetically inactivated during breast carcinogenesis, and thus be regarded as a candidate of tumour suppressor gene.

Reference

Ritonja A.,et al.,(1985), Amino acid sequence of the intracellular cysteine proteinase inhibitor cystatin B from human liver. Biochem. Biophys. Res. Commun. 131:1187-1192.

Pennacchio L.A.,et al., (1996), Mutations in the gene encoding cystatin B in progressive myoclonus epilepsy (EPM1).Science 271:1731-1734.

Ghaemmaghami S.,et al.,(2003), Global analysis of protein expression in yeast.Nature 425:737-741.

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