Data Sheet (Cat.No.TMPY-00729)

TargetMol

Cystatin D Protein, Human, Recombinant (His)

General Information

Synonyms:	CST5;MGC71922;cystatin D
Protein Construction:	A DNA sequence encoding the pro form of human Cystatin D (NP_001891.2) (Met 1-Val 142) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Gly 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P28325
Molecular Weight:	15.2 kDa (predicted); 15.2 kDa (reducing conditions)

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 PBS, pH 7.4. 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

Cystatins are natural inhibitors of papain-like (family C1) and legumain-related (family C13) cysteine peptidases. The mammalian cystatin superfamily members are of three major types, including the type 1 cystatins (stefins), type 2 cystatins and the kininogens. As a member of type 2 cystatin, cystatin D is a single-domain protein and also has cysteine residues that form disulfide bridges. In contrast with the wider distribution of all the other family 2 cystatins, cystatin D is tissue-restricted expressed and has been found only in saliva and tears. and meanwhile, it

displays an inhibition profile with a preferential inhibition on cathepsin S, H, L. Although the exact functions are largely unknown, it has reported that cystatin D is involved in the inhibition of virus replication and apoptosis.

Reference

Freije J.P., et al.,(1991), Structure and expression of the gene encoding cystatin D, a novel human cysteine proteinase inhibitor. J. Biol. Chem. 266:20538-20543.

Freije J.P., et al., (1993), Human cystatin D. cDNA cloning, characterization of the Escherichia coli expressed inhibitor, and identification of the native protein in saliva.J. Biol. Chem. 268:15737-15744.

Deloukas P., et al.,(2001), The DNA sequence and comparative analysis of human chromosome 20.Nature 414: 865-871.