Data Sheet (Cat.No.TMPY-02450)

TargetMol

Cathepsin D Protein, Human, Recombinant (His)

General Information

Synonyms:	HEL-S-130P;CLN10;cathepsin D;CPSD
Protein Construction:	A DNA sequence encoding the pro form of human CTSD (P07339) (Met 1-Leu 412) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ser 19
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P07339
Molecular Weight:	44 kDa (predicted); 40-110 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:	≥ 97 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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, 150 mM 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

Cathepsin D (CTSD), a well known lysosomal aspartyl protease and belongs to the peptidase C1 family, which is a normal and major component of lysosomes, and is found in almost all cells and tissues of mammals. Its mostly described function is intracellular catabolism in lysosomal compartments, other physiological effect include hormone and antigen processing. Cathepsin D has a specificity similar to but narrower than that of pepsin A. Cathepsin D plays an important role in the degradation of proteins, the generation of bioactive proteins, antigen

processing, etc. Among different role in cell physiology, a new function of this enzyme is examined. Cathepsin D is an important regulator of apoptotic pathways in cells. It acts at different stage of intrinsic and extrinsic pathway of apoptosis. In addition, CTSD secreted from human prostate carcinoma cells are responsible for the generation of angiostatin, a potent endogenous inhibitor of angiogenesis, suggesting its contribution to the prevention of tumor growth and angiogenesis-dependent growth of metastases.

Reference

Fusek M, et al. (2005) Dual role of cathepsin D: ligand and protease. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 149(1): 43-50.

Minarowska A, et al. (2007) Regulatory role of cathepsin D in apoptosis. Folia Histochem Cytobiol. 45(3): 159-63.

Zaidi N, et al. (2008) Cathepsin D: a cellular roadmap. Biochem Biophys Res Commun. 376(1): 5-9.