

Cathepsin D Protein, Mouse, Recombinant (His)

General Information

Synonyms:	CatD;CD;cathepsin D
Protein Construction:	21-410 aa
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P18242
Molecular Weight:	45.23 kDa (Predicted)

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution in PBS pH 7.4, 0.02% NLS, 1mM EDTA, 4% Trehalose, 1% Mannitol.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 µg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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 is a normal lysosomal protease that is expressed in all cells. It is an aspartyl protease with a pH optimum in the range of 3-5, and contains two N-linked oligosaccharides. Cathepsin D is synthesized as an inactive 52 kDa pro enzyme. Activation involves the proteolytic removal of the 43 amino acid profragment and an internal cleavage to generate the two-chain form made up of 34 and 14 kDa subunits. Cathepsin D contains the mannose-6-phosphate lysosomal localization signal that targets the enzyme to the lysosomal compartment where it functions in the normal degradation of proteins. In certain tumor cells, Cathepsin D is abnormally

processed and is secreted in its 52 kDa precursor form. Numerous clinical studies as well as in vitro evidence suggest that cathepsin D plays an important role in malignant transformation and may be a useful prognostic indicator for breast cancer and possibly Alzheimer's disease.

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.

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