Data Sheet (Cat.No.TMPY-00730)

TargetMol

Cathepsin A Protein, Human, Recombinant (His)

General Information

Synonyms: cathepsin A;PPCA;NGBE;GSL;PPGB;GLB2

Protein Construction: Ala29-Tyr480

Species: Human

Expression Host: HEK293 Cells

Accession: P10619

Molecular Weight: 52.2 kDa (Predicted); 58-60 kDa (Reducing conditions)

QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it.

Purity: > 95% as determined by SDS-PAGE.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Supplied as a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.

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:

Solutions are shipped with dry ice.

Protein Background

Cathepsin A is active in cellular compartments called lysosomes. These compartments contain enzymes that digest and recycle materials when they are no longer needed. Cathepsin A interacts with the enzymes β-galactosidase and neuraminidase 1, which play a role in the breakdown of complexes of sugar molecules (oligosaccharides) attached to certain proteins (glycoproteins) or fats (glycolipids). Cathepsin A forms a complex with these two enzymes and directs their transport within the cell to the lysosomes. Within lysosomes, cathepsin A activates the enzymes and prevents their breakdown.

Reference

Hiraiwa M. (1999) Cathepsin A/protective protein: an unusual lysosomal multifunctional protein. Cell Mol Life Sci. 56(11-12): 894-907.
Yoshida T, et al. (2006) Comparative analysis of binding energy of chymostatin with human cathepsin A and its homologous proteins by molecular orbital calculation. J Chem Inf Model. 46(5): 2093-103.
Seyrantepe V, et al. (2008) Enzymatic activity of lysosomal carboxypeptidase (cathepsin) A is required for proper elastic fiber formation and inactivation of endothelin-Circulation. 117(15): 1973-81.

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