

Carboxypeptidase A Protein, Human, Recombinant (His)

General Information

Synonyms:	carboxypeptidase A1 (pancreatic);CPA
Protein Construction:	A DNA sequence encoding the human CPA1 precursor (NP_001859.1) (Met 1-Tyr 419) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Lys 17
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P15085
Molecular Weight:	47 kDa (predicted); 43 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to cleave the colorimetric peptide substrate Ac-Phe-Thiophe-OH in the presence of 5,5'Dithiobis (2-nitrobenzoic acid) (DTNB). The specific activity is >3,500 pmoles/min/μg
Purity:	> 97 % 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. <i>Actual storage temperature shall be subject to the COA.</i>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Carboxypeptidase A1 (CPA1) is secreted as a pancreatic procarboxypeptidase, and cleaves the C-terminal amide or ester bond of peptides that have a free C-terminal carboxyl group, with the preference of residues with aromatic or branched aliphatic side chains. CPA1 comprises a signal peptide, a pro region and a mature chain,

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and can be activated after cleavage of the pro peptide. In contrast to procarboxypeptidase B which was always secreted by the pancreas as a monomer, procarboxypeptidase A occurs as a monomer and/or associated to one or two functionally different proteins, such as zymogen E, and is involved in zymogen inhibition. Three different forms of human pancreatic procarboxypeptidase A have been isolated.

Reference

- Catasus, L. et al., 1992, Biochem. J. 287: 299-303.
Moulard, M. et al., 1990, FEBS. Lett. 261: 179-183.
Aloy, P. et al., 1998, Biol. Chem. 379: 149-155.

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