

Carboxypeptidase A2 Protein, Human, Recombinant (His)

General Information

Synonyms:	carboxypeptidase A2;CPA2
Protein Construction:	A DNA sequence encoding the pre pro form of human CPA2 (NP_001859.1) (Met 1-Tyr 417) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Leu 17
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P15085
Molecular Weight:	46 kDa (predicted); 46 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to cleave a colorimetric peptide substrate, N-acetyl-Phe-Thiaphe-OH (N-Ac-PSP), in the presence of 5,5'Dithio-bis (2-nitrobenzoic acid) (DTNB), as measured using the wavelength at 405 nm and the extinction coefficient of 13,260 M ⁻¹ cm ⁻¹ . The specific activity is >4,000 pmoles/min/μg
Purity:	> 90 % 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 25 mM Tris, 0.15 mM NaCl, 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

Carboxypeptidase A2 (CPA2) is a secreted pancreatic procarboxy -peptidase, and cleaves the C-terminal amide or ester bond of peptides that have a free C-terminal carboxyl group. The hydrolytic action of CPA2 was identified

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with a preference towards long substrates with aromatic amino acids in their C-terminal end, particularly tryptophan. CPA2 comprises a signal peptide, a pro region and a mature chain, and can be activated after cleavage of the pro peptide. Three different forms of human pancreatic procarboxypeptidase A have been isolated, and the A1 and A2 forms are always secreted as monomeric proteins with different biochemical properties.

Reference

Catasus, L. et al., 1995. J. Biol. Chem. 270: 6651-6657.

Aloy, P. et al., 1998, Biol. Chem. 379: 149-155.

Laethem, RM. et al., 1996, Arch. Biochem. Biophys.332: 8-18.

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