

Carboxypeptidase B1 Protein, Human, Recombinant (His)

General Information

Synonyms:	PASP;PCPB;carboxypeptidase B1 (tissue);CPB
Protein Construction:	A DNA sequence encoding the human CPB1 (NP_001862.2) (Met 1-Tyr 417) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: His 16
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P15086
Molecular Weight:	47 kDa (predicted); 45 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to cleave a colorimetric peptide substrate, Hippuryl-Arg, as measured using the wavelength at 254 nm. The specific activity is >1000 pmoles/min/μg.
Purity:	> 98 % 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 MES, 0.1 M 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:

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 B1, also well known as pancreatic procarboxypeptidase B (PCPB), is a highly pancreas -specific protein (PASP), and has been identified previously as a serum marker for acute pancreatitis and pancreatic graft rejection. As the prototype for those human exopeptidases that cleave off basic C-terminal residues, CPB1 specifically cleaves the C-terminal Arg and Lys residues with a preference for Arg. The B1 and B2 forms of procarboxypeptidase B differ from each other mainly in isoelectric point. The deduced amino acid sequence of

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PCPB predicts a 416-amino acid preproenzyme consisting of a 15-aa signal peptide, a 95-aa activation peptide and a 37-aa mature chain. The secreted PCPB zymogen is converted to enzymatically active CPB1 by limited proteolysis by trypsin.

Reference

Yamamoto, K.K. et al., 1992, J. Biol. Chem. 267: 2575-2581.

Pezzilli, R. et al., 1994, Digestion. 55: 73-77.

Barbosa Pereira, P.J. et al., 2002, J. Mol. Biol. 321: 537-547.

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