

Catalog #	Aliquot Size
C560-31N-05	0.5 mg
C560-31N-5	5 mg
C560-31N-50	50 mg
C560-31N-250	250 mg

## CPB (carboxypeptidase B), Active

Recombinant rat protein expressed in yeast cells

**Catalog # C560-31N**

Lot # L2146-1

### Product Description

Recombinant rat tag-free CPB (109-end) was expressed in yeast cells. The Enzyme Commission number is EC 3.4.17.2.

### Gene Aliases

CPB1; CPB2; Carboxylase B

### Formulation

Recombinant protein stored in 50mM Tris-HCl, pH 8, 200mM NaCl, 30% glycerol.

### Storage and Stability

Store product at  $-20^{\circ}\text{C}$  for up to 1 year. Aliquot enzymes to avoid freeze / thaw cycles.

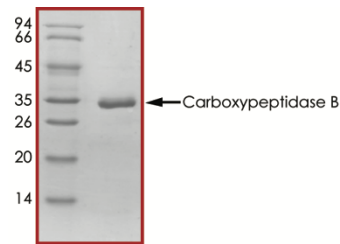
### Digestion Conditions

Catalytic pH range: 5.0~12.0  
Maximum temperature:  $60^{\circ}\text{C}$

### Scientific Background

Carboxypeptidase B (CPB) is a metal-containing pancreatic endopeptidase that catalyzes the successive release of basic carboxy-terminal residues, such as Arg and Lys. CPB also targets other amino acids, albeit at a slower rate. These secondary target residues include valine, leucine, isoleucine, asparagine, glycine, and glutamine. CPB depends on  $\text{Zn}^{2+}$  to promote enzymatic activity. Conversely, the enzyme is inhibited by some heavy metals, including  $\text{Cu}^{2+}$ ,  $\text{Hg}^{2+}$ ; metal chelating agents such as EDTA and competing Arg and Lys residues. CPB functions between pH 5-12, with an optimal pH of 8. Enzyme activity also increases with rises in temperature. CPB is used in the production of recombinant human insulin and monoclonal antibody/IgG1 (mAb) processing.

### Purity

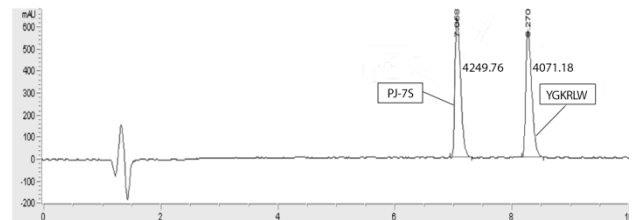


The purity of CPB (Carboxypeptidase B) was determined to be **>95%** by densitometry, approx. MW **35kDa**.

### Specific Activity

The specific activity of Carboxypeptidase B was determined to be **180 units/mg** as per the activity assay protocol.

Sample Data:



HPLC results for digestion of the polypeptide NH<sub>2</sub>-YGKRLWK-COOH (PJ-7s) by Carboxypeptidase B at an enzyme: substrate mass ratio of 1:10,000 for 10 min at  $37^{\circ}\text{C}$ . The digestion products are YGKRLW and K.

## CPB (Carboxypeptidase B), Active

Recombinant mouse/rat protein expressed in yeast cells

Catalog Number	C560-31N
Specific Activity	180 units/mg
Lot #	L2146-1
Purification	Column Chromatography; no tag
Purity	>95%
Concentration	2 mg/ml
Stability	1 yr at $-20^{\circ}\text{C}$ from date of shipment
Storage & Shipping	Store as supplied at $-20^{\circ}\text{C}$ for up to 1 year.

To place your order, please contact us by phone 1-(604)-232-4600, fax 1-604-232-4601 or by email: [orders@signalchem.com](mailto:orders@signalchem.com)  
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# Assay Protocol

## Reaction Components

### Active CPB Protease (Catalog #: C560-31N)

Active Carboxypeptidase B protease.

### CPB Digestion Buffer (User Prepared)

25 mM Tris-HCl pH 8.0, 0.1 M NaCl

## Reaction Protocol

The following conditions may be different for different proteins. Optimize the protocol for each specific protein.

- Step 1.** Dissolve fusion protein in CPB Digestion Buffer
- Step 2.** Add CPB to fusion protein solution at a mass ratio of 1:50 and mix
- Step 3.** Incubate reaction mixture at room temperature for 2-16 hours
- Step 4.** Monitor the cleavage products by SDS-PAGE. Run an undigested sample of the target fusion protein as a control

## Activity Definition (units/mg)

SignalChem's Carboxypeptidase B activity is defined by the following:

One unit equals the amount of CPB required to hydrolyze 1.0  $\mu$ mol of Hippuryl-L-Arg per minute at 30°C, pH 9.5.

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