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Product Information

Carboxypeptidase Inhibitor from potato tuber

Product Number **C 0279**

Storage Temperature -0°C

Product Description

CAS Number: 56092-22-9

Molecular Weight: 4.075-4.333 kDa¹

Extinction Coefficient: $E_{1\%}^{1\text{cm}} = 30$ (280 nm)¹

Isoelectric Point: 4.6, 5.8, 6.5¹

Synonym: CPI

Carboxypeptidase inhibitor (CPI) from potato tubers effectively inhibits mammalian pancreatic carboxypeptidases A (CPA) and B (CPB) from bovine and porcine, as well as other sources. CPI is believed to function as both a storage protein and as a defensive mechanism against the proteolytic enzymes of invading insect pests.

Carboxypeptidase inhibitor from potato tubers exists as three different isoforms (CPI-I, CPI-II, and CPI-III) with pI's equal to 4.6, 5.8, and 6.5 respectively. The three isoforms possess nearly identical inhibitory activities ($K_i[\text{CPA}] = 1.5\text{-}3.5$ nM and $K_i[\text{CPB}] = 1.1\text{-}6.0$ nM).

The terminal amino group of CPI may be modified without reducing its activity. This property allows CPI to be conjugated to CNBr activated agarose and subsequently used as an affinity resin for the purification of CPA and CPB.¹

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This inhibitor is soluble in water (5 mg/ml), yielding a clear solution.

Storage/Stability

CPI is stable at high temperatures (90°C), as well as being active over a wide pH range (2.0-11.5). CPI can also withstand 6 M guanidine HCl and not be irreversibly denatured.¹

References

1. Hass, G. M., and Ryan, C. A., Carboxypeptidase inhibitor from potatoes. *Meth. Enzymol.*, **80**, 778-791 (1981).

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