

ProductInformation

Apyrase from potato

Product Number **A6410**
Storage Temperature -20 °C

Product Description

CAS Number: 9000-95-7
Enzyme Commission (EC) Number: 3.6.1.5
Isoelectric point: The isoenzyme found in Pimpernel variety of potato has a pI of 8.74, that found in Desiree potatoes, pI of 6.69²

Apyrase has adenosine 5'-triphosphatase and adenosine 5'-diphosphatase activities. There are at least two isoenzymes in different varieties of *S. tuberosum*:^{1,2} one with a high ATPase/ADPase ratio (approx. 10) and another with a low ratio (approx. 1). This product is predominantly the high ratio isozyme. The two isozymes have the same molecular weight, 49 kDa (gel filtration)² and 45 kDa (γ -ray inactivation).³

Divalent metal ions are required for activity and best activity is observed with calcium ion at 5 mM. For hydrolysis of organic di- and triphosphates, the optimal pH is 6, and for inorganic substrates, the optimal pH is 5.1.²

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (1 mg/ml).

Storage/Stability

A 1 mg/ml or higher concentration of the enzyme in water, divided into aliquots and stored frozen, is stable. This product is stable in solution at pH between 5-7 if stored in frozen aliquots. Outside this range, activity is lost rapidly. If the enzyme concentration is less than 1 mg/ml, dissolve in HEPES buffer, pH 7.5, containing 1 mM MgCl₂, 1 mM DTT, 1 mM EDTA, and 1 mg/ml bovine albumin. Repeated freeze-thaw cycles and room temperature exposure for several hours will result in loss of activity. A solution of apyrase stored at 0-4 °C will gradually form a black insoluble precipitate with nearly the same activity as the soluble form.

References

1. Molnar, J., and Lorand, L., Studies on Apyrases, Arch. Biochem. Biophys., **93**, 353 (1961).
2. Kettlun, A., et al., Properties of Two Apyrases from *Solanum tuberosum*, Phytochemistry, **21**, 551 (1982).
3. Traverso-Cori, A. et al, Arch. Biochem. Biophys., **109**, 173 (1965).

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