

Active Recombinant *S. tuberosum* Apyrase Protein

Cat. No. Apyrase-08S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant <i>S. tuberosum</i> Apyrase Protein Isolated from a strain of <i>E. coli</i> that carries the coding sequence for potato <i>S. tuberosum</i> apyrase.
Species	<i>S. tuberosum</i>
Source	<i>E. coli</i>
Description	Apyrase is a highly active ATP-diphosphohydrolase that catalyzes the sequential hydrolysis of ATP to ADP and ADP to AMP releasing inorganic phosphate.
Bio-activity	3,000 units/mg
Molecular Mass	47 kDa
Applications	Highly efficient degradation of ATP to AMP. Removal of deoxynucleotides in DNA pyrosequencing between cycles. Conversion of 5' triphosphorylated RNA to ligatable monophosphorylated form that can be used for 5' RNA adaptor ligation. Conversion of 5' triphosphorylated RNA to 5' exonuclease XRN-1bsensitive monophosphorylated RNA.
Notes	1. Apyrase has a higher ratio of activity for ATP:ADP (14:1). 2. Apyrase is a calcium-activated enzyme. It is approximately 50% active when Mg ²⁺ substitutes Ca ²⁺ in Apyrase Reaction Buffer. 3. As a metal-dependent enzyme, Apyrase can be inhibited by EGTA and EDTA. 4. The activity of Apyrase is approximately 30% in NEBuffers r1.1, r2.1, r3.1 and rCutSmart Buffer. 5. Apyrase does not remove 5'caps from

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

	eukaryotic mRNA.
Unit Definition	One unit is defined as the amount of enzyme that catalyses the release of 1 μ mol of inorganic phosphate from ATP (1 mM) in 1X Apyrase Reaction Buffer in 1 minute at 30 centigrade in a total reaction of 50 μ L.
Reaction Buffer	1 $\times$ Apyrase Reaction Buffer, Incubate at 30 centigrade. 1 $\times$ Apyrase Reaction Buffer: 20 mM MES, 50 mM NaCl, 5 mM CaCl ₂ , 1 mM DTT, 0.05% Tween 20, (pH 6.5 at 25 centigrade)
Storage Buffer	20 mM MES, 50 mM NaCl, 0.1 mM CaCl ₂ , 1 mM DTT, 0.1% Tween 20, 50% Glycerol, pH 6.5 at 25 centigrade.
Heat Inactivation	65 centigrade for 20 minutes
Feature	Enzyme of highest purity, efficiency and quality Tested in updated range of more stringent quality controls Supplied at 10-fold higher concentration in the optimized storage buffer Supplied with new optimal reaction buffer Provided with updated, detailed characterization Discovered and characterized a new function: the ability to convert 5' triphosphorylated RNA to monophosphorylated form, which can be ligated or removed by 5' exonuclease

GENE INFORMATION

Official Symbol	Apyrase
Synonyms	Apyrase; 9000-95-7; 3.6.1.5

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