

## Active Recombinant Potato Apyrase

**Cat. No.** Apyrase-28P    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Isolated from a strain of E. coli that carries the coding sequence for potato S. tuberosum apyrase                                                                                                                                                                                                                                                        |
| <b>Species</b>          | Potato                                                                                                                                                                                                                                                                                                                                                    |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                    |
| <b>Form</b>             | 20 mM MES, 50 mM NaCl, 0.1 mM CaCl <sub>2</sub> , 1 mM DTT, 0.1% Tween 20, 50% Glycerol, pH 6.5 at 25 centigrade.                                                                                                                                                                                                                                         |
| <b>Bio-activity</b>     | 3,000 units/mg                                                                                                                                                                                                                                                                                                                                            |
| <b>Molecular Mass</b>   | 47 kDa                                                                                                                                                                                                                                                                                                                                                    |
| <b>Applications</b>     | 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-1 sensitive monophosphorylated RNA.                  |
| <b>Notes</b>            | 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 <sup>2+</sup> substitutes Ca <sup>2+</sup> in Apyrase Reaction Buffer. 3. As a metal-dependent enzyme, Apyrase can be inhibited by EGTA and EDTA. 4. Apyrase does not remove 5' caps from eukaryotic mRNA. |

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|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Unit definition</b>    | One unit is defined as the amount of enzyme that catalyses the release of 1 $\mu$ mol of inorganic phosphate from ATP (1 mM) in 1× Apyrase Reaction Buffer in 1 minute at 30 centigrade in a total reaction of 50 $\mu$ L.                                                                                                                                                                                                                                 |
| <b>Reaction condition</b> | 1× Apyrase Reaction Buffer, Incubate at 30 centigrade. 1× Apyrase Reaction Buffer: 20 mM MES, 50 mM NaCl, 5 mM CaCl <sub>2</sub> , 1 mM DTT, 0.05% Tween 20, (pH 6.5 at 25 centigrade)                                                                                                                                                                                                                                                                     |
| <b>Heat inactivation</b>  | 65 centigrade for 20 minutes                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Features</b>           | 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

|                        |         |
|------------------------|---------|
| <b>Official Symbol</b> | Apyrase |
| <b>Synonyms</b>        | Apyrase |

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