Apyrase

10,000 milliunits Lot: 0361403 Exp: 3/15
50,000 milliunits/ml Store at –20°C

Description: Apyrase is an ATP diphosphohydrolase. It catalyzes the removal of the gamma phosphate from ATP and the beta phosphate from ADP. The phosphate from AMP is not removed.

10 units = 10,000 milliunits

Source: This preparation is purified from K. lactis containing a clone of the potato apyrase gene (1).

Supplied in: 10 mM Tris Acetate (pH 6.5), 50 mM NaCl, 0.1 mM CaCl₂, 0.1% Tween 20, 0.1 mM DTT and 50% glycerol.

Reagents Supplied with Enzyme:
10X Succinate Buffer for control purposes

Unit Definition: One unit is defined as the amount of enzyme that catalyzes the conversion of 1 µmol of ATP to ADP in one minute at 30°C in a total reaction volume of 50 µl.

Unit Assay Conditions: 1X Succinate Buffer, 40 mM sodium succinate (pH 6.5), 4 mM CaCl₂ and 1 mM ATP at 30°C.

Quality Controls Assays
Phosphatase Contamination: After incubation of 1 unit of Apyrase with 0.05 µmol p-nitrophenol phosphate for 4 hours at 37°C, no phosphatase activity could be detected by spectrophotometric analysis.

Nuclease Contamination: Incubation of 1 units of Apyrase for 6 hours in the recommended assay buffer with Lambda-HindIII Digest and 1 µg pUC19 DNA Ladder revealed no detectable endonuclease activity as determined by agarose gel electrophoresis.

Exonuclease Activity: Incubation of 50 µl reaction containing 1 units of Apyrase with 1 µg of a mixture of single and double-stranded [³H] E. coli DNA (200,000 cpm/µg) for 4 hours at 37°C released < 0.5% of the total radioactivity.

Note: The activity of Apyrase at pH 7.5 in a Tris Buffer is approximately 80% of the activity at pH 6.5. Magnesium can substitute for calcium in the reaction. The ratio of ATPase:ADPase is 12:1 with this preparation of Apyrase.

Reference: