

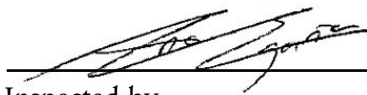
## New England Biolabs Certificate of Analysis

*Product Name:* Apyrase  
*Catalog #:* M0398S/L  
*Concentration:* 500 units/ml  
*Unit Definition:* One unit is defined as the amount of enzyme that catalyses the release of 1 μmol of inorganic phosphate from ATP in 1 minute at 30°C in a total reaction of 50 μl.  
*Lot #:* 0011610  
*Assay Date:* 10/2016  
*Expiration Date:* 04/2018  
*Storage Temp:* -20°C  
*Storage Conditions:* 20 mM MES, 50 mM NaCl, 1 mM DTT, 0.1 mM CaCl<sub>2</sub>, 0.1 % Tween® 20, 50 % Glycerol, (pH 6.5 @ 25°C)  
*Specification Version:* PS-M0398S/L v1.0  
*Effective Date:* 05 Oct 2016

Assay Name/Specification (minimum release criteria)	Lot #0011610
<b>Endonuclease Activity (Nicking)</b> - A 50 μl reaction in Apyrase Reaction Buffer containing 1 μg of supercoiled PhiX174 DNA and a minimum of 5 units of Apyrase incubated for 4 hours at 30°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Exonuclease Activity (Radioactivity Release)</b> - A 50 μl reaction in Apyrase Reaction Buffer containing 1 μg of a mixture of single and double-stranded [ <sup>3</sup> H] <i>E. coli</i> DNA and a minimum of 5 units of Apyrase incubated for 4 hours at 30°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - A 50 μl reaction in NEBuffer 4 containing 1 μg of PhiX174-HaeIII DNA and a minimum of 5 units of Apyrase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	<b>Pass</b>
<b>Phosphatase Activity (pNPP)</b> - A 200 μl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl <sub>2</sub> containing 2.5 p-Nitrophenyl Phosphate (pNPP) and a minimum of 5 units of Apyrase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Apyrase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	<b>Pass</b>
<b>RNase Activity (Extended Digestion)</b> - A 10 μl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 μl of Apyrase is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	<b>Pass</b>



Authorized by  
Derek Robinson  
05 Oct 2016



Inspected by  
Ana Egana  
18 Oct 2016

