

New England Biolabs Certificate of Analysis

Product Name: *Bst 3.0 DNA Polymerase*
Catalog #: *M0374M*
Concentration: *120,000 units/ml*
Unit Definition: *One unit is defined at the amount of enzyme that will incorporate 25 nmol of dNTPs into acid insoluble material in 30 minutes at 65°C.*
Lot #: *0071712*
Assay Date: *12/2017*
Expiration Date: *12/2019*
Storage Temp: *-20°C*
Storage Conditions: *10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.1 % Triton®X-100, 50 % Glycerol, (pH 7.4 @ 25°C)*
Specification Version: *PS-M0374M v1.0*
Effective Date: *02 Sep 2015*

| Assay Name/Specification (minimum release criteria) | Lot #0071712 |
|---|--------------|
| Endonuclease Activity (Nicking) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 500 units of <i>Bst</i> 3.0 DNA Polymerase incubated for 4 hours at 65°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis. | Pass |
| Exonuclease Activity (Radioactivity Release) - A 50 µl reaction in ThermoPol® Reaction Buffer containing 1 µg of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 500 units of <i>Bst</i> 3.0 DNA Polymerase incubated for 4 hours at 65°C releases <0.1% of the total radioactivity. | Pass |
| Non-Specific DNase Activity (16 Hour) - A 50 µl reaction in NEBuffer 2 containing 1 µg of T3 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 120 units of <i>Bst</i> 3.0 DNA Polymerase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass |
| Phosphatase Activity (pNPP) - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl ₂ containing 2.5 mM <i>p</i> -Nitrophenol Phosphate (pNPP) and a minimum of 100 units <i>Bst</i> 3.0 DNA Polymerase incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis. | Pass |
| Protein Purity Assay (SDS-PAGE) - <i>Bst</i> 3.0 DNA Polymerase is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection. | Pass |



