

## New England Biolabs Product Specification

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| <b>Product Name:</b>          | <i>T7 DNA Polymerase (unmodified)</i>  |
| <b>Catalog #:</b>             | <i>M0274S/L</i>  |
| <b>Concentration:</b>         | <i>10,000 units/ml</i>   |
| <b>Unit Definition:</b>       | <i>One unit is defined as the amount of enzyme that will incorporate 10 nmoles of dNTP into acid insoluble material in 30 minutes at 37°C.</i> |
| <b>Shelf Life:</b>            | <i>24 months</i>   |
| <b>Storage Temp:</b>          | <i>-20°C</i>   |
| <b>Storage Conditions:</b>    | <i>50 mM KPO<sub>4</sub> , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.0 @ 25°C)</i>   |
| <b>Specification Version:</b> | <i>PS-M0274S/L v1.0</i>  |
| <b>Effective Date:</b>        | <i>05 Aug 2015</i>   |

### Assay Name/Specification (minimum release criteria)

**Endonuclease Activity (Nicking)** - A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 units of T7 DNA Polymerase (unmodified) incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

**Phosphatase Activity (pNPP)** - A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl<sub>2</sub> containing 2.5 mM *p*-Nitrophenol Phosphate (pNPP) and a minimum of 100 units T7 DNA Polymerase (unmodified) incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

**Protein Purity Assay (SDS-PAGE)** - T7 DNA Polymerase (unmodified) is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

**qPCR DNA Contamination (*E. coli* Genomic)** - A minimum of 10 units of T7 DNA Polymerase (unmodified) is screened for the presence of *E. coli* genomic DNA using SYBR® Green qPCR with primers specific for the *E. coli* 16S rRNA locus. Results are quantified using a standard curve generated from purified *E. coli* genomic DNA. The measured level of *E. coli* genomic DNA contamination is ≤ 1 *E. coli* genome.



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Date 05 Aug 2015

