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New England Biolabs
Certificate of Analysis

Product Name:	*T4 DNA Polymerase*
Catalog #:	*M0203S/L*
Concentration:	*3,000 units/ml*
Unit Definition:	*One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid insoluble material in 30 minutes at 37°C.*
Lot #:	*0401612*
Assay Date:	*12/2016*
Expiration Date:	*12/2018*
Storage Temp:	*-20°C*
Storage Conditions:	*100 mM KPO_4 , 1 mM DTT , 50 % Glycerol, (pH 6.5 @ 25°C)*
Specification Version:	*PS-M0203S/L v1.0*
Effective Date:	*17 May 2016*

Assay Name/Specification (minimum release criteria)	**Lot #0401612**
Endonuclease Activity (Nicking) - A 50 µl reaction in NEBuffer 2 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of T4 DNA Polymerase incubated for 4 hours at 37°C results in <10% conversion to the nicked form 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 *p*-Nitrophenyl Phosphate (pNPP) and a minimum of 100 units T4 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) - T4 DNA Polymerase is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 3 units of T4 DNA Polymerase 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.	**Pass**

Authorized by
Melanie Fortier
17 May 2016

Inspected by
Tony Spear-Alfonso
11 Jan 2017

nqa ISO 9001 Registered Quality Management
nqa ISO 14001 Registered Environmental Management
nqa ISO 13485 Registered Medical Devices