NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*Hemo KlenTaq®*
Catalog Number:	*M0332L*
Unit Definition:	*N/A*
Lot Number:	*10045841*
Expiration Date:	*01/2021*
Storage Temperature:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl , 100 mM KCl , 1 mM DTT , 0.1 mM EDTA , 0.5 % Tween® 20 , 0.5 % IGEPAL® CA-630 , 50 % Glycerol, (pH 7.4 @ 25°C)*
Specification Version:	*PS-M0332S/L v1.0*

Hemo KlenTaq® Component List

NEB Part Number	Component Description	Lot Number	Individual QC Result
M0332LVIAL	Hemo KlenTaq®	10035053	**Pass**
B0332SVIAL	Hemo KlenTaq® Reaction Buffer	0031801	**Pass**

Assay Name/Specification	Lot # 10045841
qPCR DNA Contamination (E. coli Genomic) A minimum of 1 µl of Hemo KlenTaq® 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**
RNase Activity (Extended Digestion) A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 1 µl of Hemo KlenTaq® is incubated at 37ºC. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**
Single Stranded DNase Activity (FAM-Labeled Oligo) A 20 µl reaction in Hemo KlenTaq® Reaction Buffer containing a 10 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 8 µl of Hemo KlenTaq® incubated for 30 minutes at 37°C and 75°C yields <10% degradation as determined by capillary electrophoresis.	**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	**Pass**

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Assay Name/Specification	Lot # 10045841
containing Lambda-HindIII DNA and a minimum of 1 µl of Hemo KlenTaq® incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	
PCR Amplification (0.5 kb Whole Blood DNA) A 50 µl reaction in Hemo KlenTaq® Reaction Buffer in the presence of 200 µM dNTPs and 0.3 µM primers containing 10% whole blood treated with sodium heparin, sodium EDTA, potassium EDTA or sodium citrate with 4 µl of Hemo KlenTaq® for 35 cycles of PCR amplification results in the expected 0.5 kb product.	**Pass**
Phosphatase Activity (pNPP) A 200 µl reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl2 containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 2 µl Hemo KlenTaq® 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) Hemo KlenTaq® is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.	**Pass**
Endonuclease Activity (Nicking) A 50 µl reaction in Hemo KlenTaq® Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 8 µl of Hemo KlenTaq® incubated for 4 hours at 37°C and 75ºC results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	**Pass**

This product has been tested and shown to be in compliance with all specifications.

Christie Vazquez
Production Scientist
06 Mar 2019

Michael Tonello
Packaging Quality Control Inspector
31 May 2019