240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

New England Biolabs Product Specification

Product Name: Hemo KlenTaq®

Catalog #: M0332S/L

Concentration: 500 reactions/ml

Unit Definition:N/AShelf Life:24 monthsStorage Temp:-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

Effective Date: 06 Jan 2016

Assay Name/Specification (minimum release criteria)

Endonuclease Activity (Nicking) - A 50 μ l reaction in Hemo KlenTaq® Reaction Buffer containing 1 μ g of supercoiled PhiX174 DNA and a minimum of 8 μ l of Hemo KlenTaq® incubated for 4 hours at either 37°C or 75°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

Non-Specific DNase Activity (16 Hour) - A 50 μ l reaction in NEBuffer 2 containing 1 μ g of T3 DNA in addition to a reaction containing Lambda-HindIII DNA and a minimum of 1 μ l of Hemo KlenTaq® incubated for 16 hours at 37°C 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 μ l reaction in Hemo KlenTaq® Reaction Buffer in the presence of 200 μ M dNTPs and 0.3 μ M primers containing 10% whole blood treated with sodium heparin, sodium EDTA, potassium EDTA or sodium citrate with 4 μ l of Hemo KlenTaq® for 35 cycles of PCR amplification results in the expected 0.5 kb product.

Phosphatase Activity (pNPP) - A 200 μ l reaction in 1M Diethanolamine, pH 9.8, 0.5 mM MgCl₂ containing 2.5 mM *p*-Nitrophenyl Phosphate (pNPP) and a minimum of 2 μ l Hemo KlenTaq® incubated for 4 hours at 37°C yields <0.0001 unit of alkaline phosphatase activity as determined by spectrophotometric analysis.

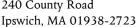
Protein Purity Assay (SDS-PAGE) - Hemo KlenTaq® is ≥ 99% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.

qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 1 μ l 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.









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Assay Name/Specification (minimum release criteria)

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 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.

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 either 37°C or 75°C yields <10% degradation as determined by capillary electrophoresis.

Date 06 Jan 2016

Derek Robinson Director of Quality Control





