

New England Biolabs Certificate of Analysis

Product Name: Quick Ligation™ Kit
Catalog Number: M2200S
Unit Definition: N/A
Packaging Lot Number: 10065938
Expiration Date: 08/2021
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl , 50 mM KCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M2200S/L v1.0

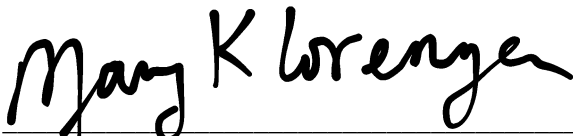
Quick Ligation™ Kit Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M2200SVIAL	Quick Ligation™ Kit	10050901	Pass
B2200SVIAL	Quick Ligation™ Reaction Buffer	10052368	Pass

Assay Name/Specification	Lot # 10065938
Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 2000 units of Quick Ligase incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Double Stranded DNase Activity (Labeled Oligo) A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a blunt end and a minimum of 10,000 units of Quick Ligase incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.	Pass
DNase Activity (Labeled Oligo, 5' extension) A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 5' extension and a minimum of 10,000 units of Quick Ligase incubated for 16 hours at 37°C yields <5% degradation as determined by capillary electrophoresis.	Pass
DNase Activity (Labeled Oligo, 3' extension) A 50 µl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent labeled double-stranded oligonucleotide containing a 3' extension and a minimum of 10,000 units of Quick Ligase incubated for 16 hours at 37°C yields <5% degradation	Pass

Assay Name/Specification	Lot # 10065938
as determined by capillary electrophoresis.	
<p>qPCR DNA Contamination (E. coli Genomic) A minimum of 2000 units of Quick Ligase 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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) Quick Ligase is $\geq 95\%$ pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	Pass
<p>Non-Specific DNase Activity (16 Hour) A 50 μl reaction in NEBuffer 1 containing 1 μg of CIP-treated Lambda-HindIII DNA and a minimum of 2000 units of Quick Ligase incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass
<p>Ligation and Recutting (Terminal Integrity, Digested DNA) A 20 μl reaction in 1X T4 DNA Ligase Reaction Buffer containing 2 μg of Lambda DNA-HindIII Digest and a minimum of 4000 units of Quick Ligase incubated for 16 hours at 37°C results in $>95\%$ ligation of the DNA fragments as determined by agarose gel electrophoresis. Of these ligated fragments, $>95\%$ can be recut with HindIII.</p>	Pass
<p>Functional Testing (Ligation and Transformation) After a five-minute ligation of linearized, dephosphorylated LITMUS 28 or pUC19 (containing either blunt [EcoRV] or cohesive [HindIII] ends) and a mixture of compatible insert fragments, transformation into chemically competent E. coli DH-5 alpha cells yields a minimum of 1×10^6 recombinant transformants per μg plasmid DNA.</p>	Pass
<p>Exonuclease Activity (Radioactivity Release) A 50 μl reaction in NEBuffer 1 containing 1 μg of a mixture of single and double-stranded [3H] E. coli DNA and a minimum of 2000 units of Quick Ligase incubated for 4 hours at 37°C releases $<0.1\%$ of the total radioactivity.</p>	Pass
<p>Single Stranded DNase Activity (FAM-Labeled Oligo) A 50 μl reaction in CutSmart® Buffer containing a 20 nM solution of a fluorescent internal labeled oligonucleotide and a minimum of 10,000 units of Quick Ligase incubated for 16 hours at 37°C yields $<5\%$ degradation as determined by capillary electrophoresis.</p>	Pass

Assay Name/Specification	Lot # 10065938
<p>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 Quick Ligase 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.</p>	<p>Pass</p>

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



Mary Lorenzen
Production Scientist
14 Aug 2019



Michael Tonello
Packaging Quality Control Inspector
09 Mar 2020