NEW ENGLAND BioLabs Inc.
be INSPIRED drive DISCOVERY stay GENUINE
240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
Fax 978-921-1350
www.neb.com
info@neb.com

# New England Biolabs
# Certificate of Analysis

| | |
|---|---|
| *Product Name:* | *RecA* |
| *Catalog Number:* | *M0249L* |
| *Concentration:* | *2 mg/ml* |
| *Lot Number:* | *10053294* |
| *Expiration Date:* | *08/2021* |
| *Storage Temperature:* | *-20°C* |
| *Storage Conditions:* | *10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)* |
| *Specification Version:* | *PS-M0249S/L v1.0* |

| **RecA Component List** | | | |
|---|---|---|---|
| **NEB Part Number** | **Component Description** | **Lot Number** | **Individual QC Result** |
| M0249LVIAL | RecA | 10053293 | **Pass** |
| B0355SVIAL | Rec A Reaction Buffer | 10041040 | **Pass** |

| **Assay Name/Specification** | **Lot # 10053294** |
|---|---|
| **RNase Activity (Extended Digestion)**<br>A 10 µl reaction in NEBuffer 4 containing 40 ng of a 300 base single-stranded RNA and a minimum of 10 µg of RecA is incubated at 37°C. After incubation for 4 hours, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection. | **Pass** |
| **Protein Purity Assay (SDS-PAGE)**<br>RecA is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection. | **Pass** |
| **Protein Concentration (A280, Range)**<br>The concentration of RecA is from 1.9 to 2.1 mg/ml as determined by UV absorption at 280 nm. | **Pass** |
| **Non-Specific DNase Activity (16 Hour)**<br>A 50 µl reaction in RecA Reaction Buffer containing 1 µg of Lambda DNA and a minimum of 10 µg of RecA incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | **Pass** |
| **Molecular Weight Determination (Identity)**<br>The intact mass detected by LC-MS is ± 50 ppm of the expected mass of RecA | **Pass** |

NEW ENGLAND BioLabs Inc.
be INSPIRED drive DISCOVERY stay GENUINE
240 County Road
Ipswich, MA 01938-2723
Tel 978-927-5054
Fax 978-921-1350
www.neb.com
info@neb.com

| Assay Name/Specification | Lot # 10053294 |
|---|---|
| (37,972.94 Da). | |
| **Functional Testing (Triple Helix Formation)**<br>The plasmid pUC19 contains 5 HpyCH4IV sites. A 60-mer was designed with complementarity to the region centered around the HpyCH4IV site at position 374. A reaction containing 1 µg pUC19, 0.18 µg 60-mer, 0.3 mM ATP γ-S, 4 µg RecA, in 40 µl 1X RecA Reaction Buffer was incubated at 37°C for 10 minutes to form a stable triple helix. The unprotected sites were methylated using 8 units of SssI supplemented with 160 µM SAM for 10 minutes at 37°C. The reaction was stopped and the triple helix disrupted by incubation at 65°C for 15 minutes. The reaction was cooled and 10 units of HpyCH4IV were added followed by digestion at 37°C for 20 minutes. ≥90% of the product is single cut pUC19. | **Pass** |
| **Exonuclease Activity (Radioactivity Release)**<br>A 50 µl reaction in RecA Reaction Buffer containing 1 µg of a mixture of single and double-stranded [ $^{3}$H] E. coli DNA and a minimum of 10 µg of RecA incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | **Pass** |
| **Endonuclease Activity (Nicking)**<br>A 50 µl reaction in RecA Reaction Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 µg of RecA incubated for 4 hours at 37°C 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.

Bo Wu
Production Scientist
26 Mar 2019

Michael Tonello
Packaging Quality Control Inspector
05 Sep 2019