

## New England Biolabs Certificate of Analysis

**Product Name:** *EnGen Lba Cas12a (Cpf1)*  
**Catalog Number:** *M0653S*  
**Concentration:** *1  $\mu$ M*  
**Packaging Lot Number:** *10270459*  
**Expiration Date:** *11/2026*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *500 mM NaCl, 20 mM Sodium Acetate, 0.1 mM EDTA, 0.1 mM TCEP-HCl, 50% Glycerol, (pH 6.0 @ 25°C)*  
**Specification Version:** *PS-M0653S v2.0*

| EnGen Lba Cas12a (Cpf1) Component List |                          |            |                      |
|--|--------------------------|------------|----------------------|
| NEB Part Number                        | Component Description    | Lot Number | Individual QC Result |
| M0653SVIAL                             | ENGEN® LBA CAS12A (CPF1) | 10263400   | Pass                 |
| B6002SVIAL                             | NEBuffer™ r2.1           | 10250211   | Pass                 |

| Assay Name/Specification   | Lot # 10270459 |
|--|----------------|
| <b>Endonuclease Activity (Nicking)</b><br>A 50 $\mu$ l reaction in NEBuffer 2.1 containing 1 $\mu$ g of supercoiled PhiX174 RF I DNA and a minimum of 1 pmol of EnGen® Lba Cas12a (Cpf1) incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.   | <b>Pass</b>    |
| <b>Exonuclease Activity (Radioactivity Release)</b><br>A 50 $\mu$ l reaction in NEBuffer 2.1 containing 1 $\mu$ g of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 1 pmol of EnGen® Lba Cas12a (Cpf1) incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.  | <b>Pass</b>    |
| <b>Functional Testing (Targeted Digestion)</b><br>A 20 $\mu$ l reaction in 1X NEBuffer 2.1 containing 20 nM of 100 bp FAM and ROX-labeled double-stranded target DNA, 100 nM crRNA, and 100 nM EnGen® Lba Cas12a (Cpf1) incubated for 15 minutes at 37°C results in $\geq$ 90% targeted digestion of the substrate DNA as determined by capillary electrophoresis. | <b>Pass</b>    |
| <b>Non-Specific DNase Activity (16 Hour)</b><br>A 50 $\mu$ l reaction in NEBuffer 2.1 containing 1 $\mu$ g of Lambda DNA and a minimum of 1 pmol of EnGen® Lba Cas12a (Cpf1) incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel  | <b>Pass</b>    |

| Assay Name/Specification   | Lot # 10270459     |
|--|--------------------|
| <p>electrophoresis.</p> <p><b>RNase Activity (Extended Digestion)</b><br/>A 10 µl reaction in NEBuffer 4 containing 40 ng of f-300 RNA transcript and a minimum of 1 pmol of EnGen® Lba Cas12a (Cpf1) is incubated at 37°C. After incubation for 16 hours, &gt;90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.</p> | <p><b>Pass</b></p> |

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

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Production Scientist  
05 Dec 2024



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Josh Hersey  
Packaging Quality Control Inspector  
05 Dec 2024