NEW ENGLAND BioLabs Inc.
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New England Biolabs
Certificate of Analysis

Product Name:	*EnGen Lba Cas12a (Cpf1)*
Catalog Number:	*M0653S*
Concentration:	*1 µM*
Packaging Lot Number:	*10088260*
Expiration Date:	*09/2022*
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)	10084306	**Pass**
B7202SVIAL	NEBuffer™ 2.1	10087451	**Pass**

Assay Name/Specification	Lot # 10088260
Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 2.1 containing 1 µg 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.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer 2.1 containing 1 µg of a mixture of single and double-stranded [^{3}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.	**Pass**
Functional Testing (Targeted Digestion) A 20 µl 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 ≥90% targeted digestion of the substrate DNA as determined by capillary electrophoresis.	**Pass**
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer 2.1 containing 1 µg of Lambda DNA and a minimum of 1 pmol of EnGen® Lba Cas12a (Cpf1) incubated for 16 hours at 37ºC results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel	**Pass**

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Assay Name/Specification	Lot # 10088260
electrophoresis. **RNase Activity (Extended Digestion)** 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, >90% of the substrate RNA remains intact as determined by gel electrophoresis using fluorescent detection.	**Pass**

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Bhairavi Jani
Production Scientist
25 Nov 2020

Josh Hersey
Packaging Quality Control Inspector
25 Nov 2020