

New England Biolabs Certificate of Analysis

Product Name: Cas9 Nuclease, *S. pyogenes*
Catalog Number: M0386T
Concentration: 20 μ M
Lot Number: 10028147
Expiration Date: 01/2021
Storage Temperature: -20°C
Storage Conditions: 10 mM Tris-HCl, 300 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, (pH 7.4 @ 25°C)
Specification Version: PS-M0386T/M v1.0

Cas9 Nuclease, <i>S. pyogenes</i> Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
M0386TVIAL	Cas9 Nuclease, <i>S. pyogenes</i>	10028148	Pass
B7203SVIAL	NEBuffer™ 3.1	10021113	Pass

Assay Name/Specification	Lot # 10028147
Endonuclease Activity (Nicking) A 50 μ l reaction in NEBuffer 3.1 containing 1 μ g of supercoiled PhiX174 DNA and a minimum of 1 pmol of Cas9 Nuclease, <i>S. pyogenes</i> 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 μ l reaction in NEBuffer 3.1 containing 1 μ g of a mixture of single and double-stranded [³ H] <i>E. coli</i> DNA and a minimum of 1 pmol of Cas9 Nuclease, <i>S. pyogenes</i> incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Functional Testing (Targeted Digestion) A 20 μ l reaction in NEBuffer 3.1 containing 20 nM of 100 bp FAM and ROX-labeled double-stranded target DNA, 100 nM sgRNA, and 100 nM Cas9 Nuclease, <i>S. pyogenes</i> incubated for 1 hour at 37°C results in \geq 90% targeted digestion of the substrate DNA as determined by capillary electrophoresis.	Pass
Non-Specific DNase Activity (16 Hour) A 50 μ l reaction in NEBuffer 3.1 containing 1 μ g of Lambda DNA and a minimum of 1 pmol of Cas9 Nuclease, <i>S. pyogenes</i> incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel	Pass

Assay Name/Specification	Lot # 10028147
<p>electrophoresis.</p> <p>Protein Purity Assay (SDS-PAGE) Cas9 Nuclease, <i>S. pyogenes</i> is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<p>Pass</p>
<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 pmol of Cas9 Nuclease, <i>S. pyogenes</i> 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.



Tony Spear-Alfonso
Production Scientist
26 Nov 2018



Michael Tonello
Packaging Quality Control Inspector
18 Jan 2019