NEW ENGLAND BioLabs Inc.
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240 County Road
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New England Biolabs
Certificate of Analysis

Product Name:	*SwaI*
Catalog Number:	*R0604S*
Concentration:	*10,000 U/ml*
Unit Definition:	*One unit is defined as the amount of enzyme required to digest 1 µg of pXba DNA in 1 hour at 25°C in a total reaction volume of 50 µl.*
Packaging Lot Number:	*10147902*
Expiration Date:	*04/2024*
Storage Temperature:	*-20°C*
Storage Conditions:	*10 mM Tris-HCl, 400 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml rAlbumin (pH 7.4 @ 25°C)*
Specification Version:	*PS-R0604S/L/V v3.0*

SwaI Component List			
NEB Part Number	**Component Description**	**Lot Number**	**Individual QC Result**
R0604SVIAL	SwaI	10147901	**Pass**
B6003SVIAL	NEBuffer™ r3.1	10132773	**Pass**

Assay Name/Specification	**Lot # 10147902**
Functional Testing (15 minute Digest) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of pXba DNA and 1 µl of SwaI incubated for 15 minutes at 25ºC results in complete digestion as determined by agarose gel electrophoresis.	**Pass**
qPCR DNA Contamination (E. coli Genomic) A minimum of 1 µl of SwaI 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.	**Pass**
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 100 units of SwaI incubated for 4 hours at 25°C releases <0.1% of the total radioactivity.	**Pass**
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of pXba DNA and a minimum of 100 units of SwaI incubated for 16 hours at 25ºC results in a DNA pattern free of	**Pass**

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Assay Name/Specification	Lot # 10147902
detectable nuclease degradation as determined by agarose gel electrophoresis. **Ligation and Recutting (Terminal Integrity)** After a 20-fold over-digestion of pXba-NdeI DNA with SwaI, ~75% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16ºC. Of these ligated fragments, ~75% can be recut with SwaI.	**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.

Penghua Zhang
Production Scientist
06 Jun 2022

Erin Varney
Packaging Quality Control Inspector
06 Jun 2022