

New England Biolabs Product Specification

| | |
|-------------------------------|---|
| <i>Product Name:</i> | <i>SwaI</i> |
| <i>Catalog #:</i> | <i>R0604S/L/V</i> |
| <i>Concentration:</i> | <i>10,000 units/ml</i> |
| <i>Unit Definition:</i> | <i>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.</i> |
| <i>Shelf Life:</i> | <i>24 months</i> |
| <i>Storage Temp:</i> | <i>-20°C</i> |
| <i>Storage Conditions:</i> | <i>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)</i> |
| <i>Specification Version:</i> | <i>PS-R0604S/L/V v3.0</i> |
| <i>Effective Date:</i> | <i>22 Jul 2021</i> |

Assay Name/Specification (minimum release criteria)

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.

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 25°C results in complete digestion 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 16°C. Of these ligated fragments, ~75% can be recut with SwaI.

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 25°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

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.

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.



Date 22 Jul 2021

Derek Robinson
Director, Quality Control

