

## New England Biolabs Certificate of Analysis

**Product Name:** *Swal*  
**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:** *10207383*  
**Expiration Date:** *09/2025*  
**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*

Swal Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0604SVIAL	Swal	10206313	Pass
B6003SVIAL	NEBuffer™ r3.1	10182166	Pass

Assay Name/Specification	Lot # 10207383
<p><b>Exonuclease Activity (Radioactivity Release)</b>            A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of a mixture of single and double-stranded [<sup>3</sup>H] E. coli DNA and a minimum of 100 units of Swal incubated for 4 hours at 25°C releases &lt;0.1% of the total radioactivity.</p>	Pass
<p><b>Functional Testing (15 minute Digest)</b>            A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of pXba DNA and 1 µl of Swal incubated for 15 minutes at 25°C results in complete digestion as determined by agarose gel electrophoresis.</p>	Pass
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 20-fold over-digestion of pXba-NdeI DNA with Swal, ~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 Swal.</p>	Pass
<p><b>Non-Specific DNase Activity (16 Hour)</b>            A 50 µl reaction in NEBuffer™ r3.1 containing 1 µg of pXba DNA and a minimum of 100 units of Swal incubated for 16 hours at 25°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p>	Pass

Assay Name/Specification	Lot # 10207383
<p><b>qPCR DNA Contamination (E. coli Genomic)</b> A minimum of 1 µl of Swal 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.</p>	<p><b>Pass</b></p>

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

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YunJie Sun  
Production Scientist  
04 Oct 2023



Josh Hersey  
Packaging Quality Control Inspector  
22 Nov 2023