

## New England Biolabs Certificate of Analysis

**Product Name:** RsrII  
**Catalog Number:** R0501S  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart™ Buffer in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10140841  
**Expiration Date:** 07/2023  
**Storage Temperature:** -20°C  
**Storage Conditions:** 10 mM Tris-HCl, 250 mM NaCl, 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton® X-100, 200 µg/ml BSA (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0501S/L v2.0

RsrII Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0501SVIAL	RsrII	10137473	Pass
B6004SVIAL	rCutSmart™ Buffer	10154051	Pass

Assay Name/Specification	Lot # 10140841
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Lambda DNA with RsrII, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95% can be recut with RsrII.	Pass
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 50 units of RsrII incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 50 units of RsrII incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 50 units of RsrII incubated for 4	Pass

Assay Name/Specification	Lot # 10140841
<p>hours at 37°C releases &lt;0.1% of the total radioactivity.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b> RsrII is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<p><b>Pass</b></p>

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

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