

## New England Biolabs Certificate of Analysis

**Product Name:** PaqCI®  
**Catalog Number:** R0745S  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer incubated for 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10264938  
**Expiration Date:** 04/2026  
**Storage Temperature:** -20°C  
**Storage Conditions:** 50 mM NaCl, 10 mM Tris-HCl, 1 mM DTT, 0.1 mM EDTA, 50 % Glycerol, 200 µg/ml rAlbumin, (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0745S/L v2.0

PaqCI® Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
S0532SVIAL	PaqCI® Activator	10257222	Pass
R0745SVIAL	PaqCI®	10257220	Pass
B6004SVIAL	rCutSmart™ Buffer	10256011	Pass

Assay Name/Specification	Lot # 10264938
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in rCutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 30 units of PaqCI® incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	<b>Pass</b>
<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 100 units of PaqCI® incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Lambda DNA with PaqCI® , >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 PaqCI® .	<b>Pass</b>
<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	<b>Pass</b>

Assay Name/Specification	Lot # 10264938
<p>30 units of PaqCI® incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p><b>Protein Purity Assay (SDS-PAGE)</b> PaqCI® 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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