

## New England Biolabs Certificate of Analysis

**Product Name:** PaqCI®  
**Catalog Number:** R0745L  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA incubated for 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10208036  
**Expiration Date:** 01/2025  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl , 10 mM Tris-HCl , 1 mM DTT , 0.1 mM EDTA , 50 % Glycerol , 500 µg/ml BSA, (pH 7.4 @ 25°C)  
**Specification Version:** PS-R0745S/L v1.0

PaqCI® Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
S0532LVIAL	PaqCI® Activator	10198193	Pass
R0745LVIAL	PaqCI®	10205493	Pass
B6004SVIAL	rCutSmart™ Buffer	10202500	Pass

Assay Name/Specification	Lot # 10208036
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart® 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 ul reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [ ³H] 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>Functional Testing (15 minute Digest)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and 1 µl of PaqCI® incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.	<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	<b>Pass</b>


Assay Name/Specification	Lot # 10208036
<p>can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with PaqCI® .</p>	
<p><b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of Lambda DNA and a minimum of 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>	<b>Pass</b>
<p><b>Protein Purity Assay (SDS-PAGE)</b> PaqCI® is ≥ 95% pure as determined by SDS-PAGE analysis using Coomassie Blue detection.</p>	<b>Pass</b>

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](http://www.neb.com/trademarks) for additional information.



YunJie Sun  
Production Scientist  
29 Jun 2023



Michael Tonello  
Packaging Quality Control Inspector  
28 Sep 2023