

## New England Biolabs Certificate of Analysis

**Product Name:** Tsp45I  
**Catalog Number:** R0583L  
**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 1 hour at 65°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10160134  
**Expiration Date:** 08/2024  
**Storage Temperature:** -20°C  
**Storage Conditions:** 20 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 0.15% Triton X-100, 200 µg/ml BSA  
**Specification Version:** PS-R0583S/L v2.0

Tsp45I Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0583LVIAL	Tsp45I	10160133	Pass
B6004SVIAL	rCutSmart™ Buffer	10162782	Pass

Assay Name/Specification	Lot # 10160134
<b>Exonuclease Activity (Radioactivity Release)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of a mixture of single and double-stranded [ <sup>3</sup> H] E. coli DNA and a minimum of 30 units of Tsp45I incubated for 4 hours at 65°C releases <0.1% of the total radioactivity.	Pass
<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 Tsp45I incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of Lambda DNA with Tsp45I, >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 Tsp45I.	Pass

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.

*Stephanie Cornelio*

---

Stephanie Cornelio  
Production Scientist  
10 Aug 2022

*Michael Tonello*

---

Michael Tonello  
Packaging Quality Control Inspector  
12 Oct 2022