

## New England Biolabs Certificate of Analysis

**Product Name:** TspMI  
**Catalog Number:** R0709S  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pBC4 plasmid DNA in 1 hour at 75°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10174078  
**Expiration Date:** 06/2023  
**Storage Temperature:** -20°C  
**Storage Conditions:** 20 mM Tris-HCl, 300 mM NaCl, 1 mM DTT, 1 mM EDTA, 50% Glycerol, 0.10% Triton® X-100, 200 µg/ml BSA, (pH 8.0 @ 25C)  
**Specification Version:** PS-R0709S/V v2.0

TspMI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0709SVIAL	TspMI	10174079	Pass
B6004SVIAL	rCutSmart™ Buffer	10173161	Pass

Assay Name/Specification	Lot # 10174078
<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 50 units of TspMI incubated for 4 hours at 75°C releases <0.1% of the total radioactivity.	Pass
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 5 units of TspMI incubated for 4 hours at 75°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of pBC4 DNA with TspMI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 25°C. Of these ligated fragments, ≥75% can be recut with TspMI.	Pass
<b>Non-Specific DNase Activity (16 Hour)</b> A 50 µl reaction in CutSmart® Buffer containing 1 µg of pBC4 DNA and a minimum of 5 units of TspMI incubated for 16 hours at 75°C results in a DNA pattern free of	Pass

Assay Name/Specification	Lot # 10174078
detectable nuclease degradation as determined by agarose gel electrophoresis.	

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  
16 Dec 2022



---

Michael Tonello  
Packaging Quality Control Inspector  
19 Dec 2022