

## 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:** 10185796  
**Expiration Date:** 10/2023  
**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

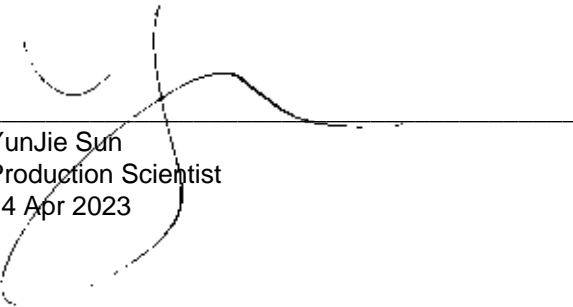
TspMI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0709SVIAL	TspMI	10185795	Pass
B6004SVIAL	rCutSmart™ Buffer	10182167	Pass

Assay Name/Specification	Lot # 10185796
<p><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 &lt;10% conversion to the nicked form as determined by agarose gel electrophoresis.</p>	Pass
<p><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 &lt;0.1% of the total radioactivity.</p>	Pass
<p><b>Ligation and Recutting (Terminal Integrity)</b>            After a 10-fold over-digestion of pBC4 DNA with TspMI, &gt;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.</p>	Pass
<p><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</p>	Pass

Assay Name/Specification	Lot # 10185796
detectable nuclease degradation as determined by agarose gel electrophoresis.	

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

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YunJie Sun  
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14 Apr 2023



Josh Hersey  
Packaging Quality Control Inspector  
24 Apr 2023