

## New England Biolabs Certificate of Analysis

**Product Name:** TspMI  
**Catalog #:** R0709S/L  
**Concentration:** 5,000 units/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pUCAdeno plasmid DNA in 1 hour at 75°C in a total reaction volume of 50 µl.  
**Lot #:** 0031402  
**Assay Date:** 02/2014  
**Expiration Date:** 08/2014  
**Storage Temp:** -20 °C  
**Storage Conditions:** 300 mM NaCl, 20 mM Tris-HCl (pH 8.0), 1 mM DTT, 1 mM EDTA, 50% Glycerol, 0.10% Triton X-100, 200 µg/ml BSA  
**Specification Version:** PS-R0709S/L v1.0  
**Effective Date:** 28 Jun 2013

Assay Name/Specification (minimum release criteria)	Lot #0031402
<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.	<b>Pass</b>
<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] <i>E. coli</i> DNA and a minimum of 50 units of TspMI incubated for 4 hours at 75°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 pUCAdeno 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.	<b>Pass</b>
<b>Non-Specific DNase Activity (16 Hour)</b> - A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pUCAdeno DNA and a minimum of 5 Units of TspMI incubated for 16 hours at 75°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	<b>Pass</b>

\* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.



Authorized by  
Derek Robinson  
28 Jun 2013



Inspected by  
David Hough  
13 Feb 2014

