

## New England Biolabs Certificate of Analysis

**Product Name:** Tth111I  
**Catalog #:** R0185S/L  
**Concentration:** 5,000 units/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pBC4 DNA in 1 hour at 65°C in a total reaction volume of 50 µl.  
**Lot #:** 0351712  
**Assay Date:** 12/2017  
**Expiration Date:** 12/2019  
**Storage Temp:** -20°C  
**Storage Conditions:** 500 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0185S/L v1.0  
**Effective Date:** 30 Apr 2014

Assay Name/Specification (minimum release criteria)	Lot #0351712
<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 Tth111I incubated for 4 hours at 65°C releases <0.1% of the total radioactivity.	<b>Pass</b>
<b>Ligation and Recutting (Terminal Integrity)</b> - After a 5-fold over-digestion of pBC4 DNA with Tth111I, ~25% 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 Tth111I.	<b>Pass</b>
<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 Tth111I incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. NOTE: although no nuclease degradation is detected under these conditions, extended incubations and/or high concentrations of this enzyme may result in star activity. See the product FAQ for recommended reaction conditions for this enzyme.	<b>Pass</b>
<b>Protein Purity Assay (SDS-PAGE)</b> - Tth111I is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	<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  
30 Apr 2014



Inspected by  
Anthony Francis  
18 Dec 2017

