

## New England Biolabs Certificate of Analysis

**Product Name:** Tsel  
**Catalog Number:** R0591L  
**Concentration:** 5,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg Lambda DNA in 1 hour at 65°C in a total reaction volume of 50 µl.  
**Lot Number:** 10033478  
**Expiration Date:** 01/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 500 mM KCl, 10 mM Tris-HCl (pH 7.5), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 µg/ml BSA  
**Specification Version:** PS-R0591S/L v1.0

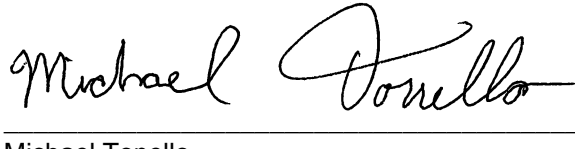
Tsel Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0591LVIAL	Tsel	10033479	Pass
B7204SVIAL	CutSmart® Buffer	10031565	Pass

Assay Name/Specification	Lot # 10033478
<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 5 units of Tsel incubated for 4 hours at 65°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 5-fold over-digestion of Lambda DNA with Tsel, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 25°C. Of these ligated fragments, >95% can be recut with Tsel.	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 5 Units of Tsel incubated for 16 hours at 65°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass

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



Tony Spear-Alfonso  
Production Scientist  
02 Jan 2019



Michael Tonello  
Packaging Quality Control Inspector  
11 Jan 2019