

## New England Biolabs Certificate of Analysis

**Product Name:** Afel  
**Catalog Number:** R0652L  
**Concentration:** 10,000 U/ml  
**Unit Definition:** One unit is defined as the amount of enzyme required to digest 1 µg of pXba DNA in 1 hour at 37°C in a total reaction volume of 50 µl.  
**Packaging Lot Number:** 10071117  
**Expiration Date:** 12/2021  
**Storage Temperature:** -20°C  
**Storage Conditions:** 300 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA  
**Specification Version:** PS-R0652S/L v1.0

Afel Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0652LVIAL	Afel	10061245	Pass
B7204SVIAL	CutSmart® Buffer	10071078	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065747	Pass

Assay Name/Specification	Lot # 10071117
<p><b>Endonuclease Activity (Nicking)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 Units of Afel incubated for 4 hours at 37°C results in &lt;20% 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 100 units of Afel incubated for 4 hours at 37°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 pXba DNA with Afel, &gt;95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, &gt;95% can be recut with Afel.</p>	Pass
<p><b>Non-Specific DNase Activity (16 Hour)</b>            A 50 µl reaction in CutSmart™ Buffer containing 1 µg of pXba DNA and a minimum of 10 Units of Afel incubated for 16 hours at 37°C results in a DNA pattern free of</p>	Pass

Assay Name/Specification	Lot # 10071117
detectable nuclease degradation as determined by agarose gel electrophoresis.	

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



Penghua Zhang  
Production Scientist  
01 May 2020



Jay Minichiello  
Packaging Quality Control Inspector  
01 May 2020