

## New England Biolabs Certificate of Analysis

**Product Name:** *Apal*  
**Catalog Number:** *R0114L*  
**Concentration:** *50,000 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 25°C in a total reaction volume of 50 µl.*  
**Lot Number:** *10044625*  
**Expiration Date:** *05/2021*  
**Storage Temperature:** *-20°C*  
**Storage Conditions:** *50 mM KCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 500 µg/ml BSA*  
**Specification Version:** *PS-R0114S/L v1.0*

Apal Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0114LVIAL	Apal	10044626	Pass
B7204SVIAL	CutSmart® Buffer	10043351	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10043349	Pass

Assay Name/Specification	Lot # 10044625
<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 100 Units of Apal incubated for 16 hours at 25°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>Endonuclease Activity (Nicking)</b> A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of Apal incubated for 4 hours at 25°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
<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 Apal incubated for 4 hours at 25°C releases <0.1% of the total radioactivity.	Pass
<b>Ligation and Recutting (Terminal Integrity)</b> After a 10-fold over-digestion of pXba DNA with Apal, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95%	Pass

Assay Name/Specification	Lot # 10044625
can be recut with Apal.	

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



Penghua Zhang  
Production Scientist  
14 May 2019



Jay Minichiello  
Packaging Quality Control Inspector  
21 Jun 2019