

## New England Biolabs Certificate of Analysis

**Product Name:** *ApaI*  
**Catalog #:** R0114S/L  
**Concentration:** 50,000 units/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 #:** 0531610  
**Assay Date:** 10/2016  
**Expiration Date:** 10/2018  
**Storage Temp:** -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  
**Effective Date:** 15 Jun 2016

Assay Name/Specification (minimum release criteria)	Lot #0531610
<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 ApaI incubated for 4 hours at 25°C results in <20% 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 100 units of ApaI incubated for 4 hours at 25°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 pXba DNA with ApaI, >95% 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 ApaI.	<b>Pass</b>
<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 ApaI incubated for 16 hours at 25°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  
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15 Jun 2016



Inspected by  
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28 Oct 2016

