

## 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 #:* *0531703*  
*Assay Date:* *03/2017*  
*Expiration Date:* *3/2019*  
*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 #0531703
<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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17 Mar 2017

