

## New England Biolabs Certificate of Analysis

**Product Name:** KpnI-HF<sup>®</sup>  
**Catalog #:** R3142M  
**Concentration:** 100,000 units/ml  
**Lot #:** 0061602  
**Assay Date:** 02/2016  
**Expiration Date:** 02/2018  
**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, 200 µg/ml BSA  
**Specification Version:** PS-R3142M v1.0  
**Effective Date:** 06 Oct 2014

| Assay Name/Specification (minimum release criteria)  | Lot #0061602 |
|--|--------------|
| <b>Blue-White Screening (Terminal Integrity)</b> - A sample of Litmus28i vector linearized with a 10-fold excess of KpnI-HF <sup>™</sup> , religated and transformed into an <i>E. coli</i> strain expressing the LacZ beta fragment gene results in <1% white colonies.   | <b>Pass</b>  |
| <b>Endonuclease Activity (Nicking)</b> - A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of KpnI-HF <sup>™</sup> incubated for 4 hours at 37°C results in <10% 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 <sup>™</sup> 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 200 units of KpnI-HF <sup>™</sup> incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | <b>Pass</b>  |
| <b>Ligation and Recutting (Terminal Integrity)</b> - After a 50-fold over-digestion of pXba DNA with KpnI-HF <sup>™</sup> , >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 KpnI-HF <sup>™</sup> .   | <b>Pass</b>  |
| <b>Non-Specific DNase Activity (16 Hour)</b> - A 50 µl reaction in CutSmart <sup>™</sup> Buffer containing 1 µg of pXba DNA and a minimum of 100 Units of KpnI-HF <sup>™</sup> incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.       | <b>Pass</b>  |
| <b>Protein Purity Assay (SDS-PAGE)</b> - KpnI-HF <sup>™</sup> is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.  | <b>Pass</b>  |



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\* 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.



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Authorized by  
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06 Oct 2014



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Inspected by  
Jianying Luo  
18 Feb 2016

