

New England Biolabs Certificate of Analysis


Product Name: KpnI-HF[®]
Catalog Number: R3142M
Concentration: 100,000 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.
Lot Number: 10056184
Expiration Date: 10/2021
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, 200 µg/ml BSA
Specification Version: PS-R3142M v1.0

| KpnI-HF [®] Component List | | | |
|-------------------------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R3142M VIAL | KpnI-HF [®] | 10056185 | Pass |
| B7204S VIAL | CutSmart [®] Buffer | 10046088 | Pass |
| B7024S VIAL | Gel Loading Dye, Purple (6X) | 10053977 | Pass |

| Assay Name/Specification | Lot # 10056184 |
|---|----------------|
| Ligation and Recutting (Terminal Integrity) After a 50-fold over-digestion of pXba DNA with KpnI-HF [™] , >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 [™] . | Pass |
| Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of pXba DNA and a minimum of 100 Units of KpnI-HF [™] incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis. | Pass |
| Protein Purity Assay (SDS-PAGE) KpnI-HF [™] is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection. | Pass |
| Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 200 units of KpnI-HF [™] incubated for 4 hours at 37°C releases <0.1% of the total radioactivity. | Pass |

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|---|----------------|
| <p>Blue-White Screening (Terminal Integrity) A sample of Litmus28i vector linearized with a 10-fold excess of KpnI-HF™, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.</p> | Pass |
| <p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 100 Units of KpnI-HF™ incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |

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



Doreen Duquette
Production Scientist
06 Sep 2019



Jay Minichiello
Packaging Quality Control Inspector
09 Oct 2019