

New England Biolabs Certificate of Analysis

Product Name: KpnI-HF[®]
Catalog Number: R3142L
Concentration: 20,000 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.
Packaging Lot Number: 10070393
Expiration Date: 03/2022
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-R3142S/L v1.0

KpnI-HF [®] Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3142LVIAL	KpnI-HF [®]	10070394	Pass
B7204SVIAL	CutSmart [®] Buffer	10071077	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065747	Pass

Assay Name/Specification	Lot # 10070393
<p>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.</p>	Pass
<p>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[™].</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
<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</p>	Pass

Assay Name/Specification	Lot # 10070393
gene results in <1% white colonies.	
<p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] 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.</p>	Pass
<p>Protein Purity Assay (SDS-PAGE) KpnI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	Pass

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



Penghua Zhang
Production Scientist
20 Apr 2020



Jay Minichiello
Packaging Quality Control Inspector
20 Apr 2020