

New England Biolabs Certificate of Analysis

Product Name: KpnI-HF®
Catalog Number: R3142S
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.
Lot Number: 10044606
Expiration Date: 02/2021
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-R3142S/L v1.0

KpnI-HF® Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R3142SVIAL	KpnI-HF®	10037035	Pass
B7204SVIAL	CutSmart® Buffer	10042966	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10042958	Pass

Assay Name/Specification	Lot # 10044606
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.	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
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	Pass

Assay Name/Specification	Lot # 10044606
of detectable nuclease degradation as determined by agarose gel electrophoresis.	
<p>Protein Purity Assay (SDS-PAGE) KpnI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</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 gene results in <1% white colonies.</p>	Pass

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



Anthony Francis
Production Scientist
22 Feb 2019



Michael Tonello
Packaging Quality Control Inspector
24 May 2019