

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: 10061159
Expiration Date: 09/2021
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
R3142LVIAL	KpnI-HF®	10055125	Pass
B7204SVIAL	CutSmart® Buffer	10055736	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10053980	Pass


Assay Name/Specification	Lot # 10061159
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.	Pass
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,	Pass

Assay Name/Specification	Lot # 10061159
<p>>95% can be recut with KpnI-HF™.</p> <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> <p>Protein Purity Assay (SDS-PAGE) KpnI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p style="text-align: center;">Pass</p> <p style="text-align: center;">Pass</p>

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



Jianying Luo
Production Scientist
03 Oct 2019



Jay Minichiello
Packaging Quality Control Inspector
13 Dec 2019