

be INSPIRED *drive* DISCOVERY *stay* GENUINE

240 County Road Ipswich, MA 01938-2723 Tel 978-927-5054 Fax 978-921-1350 www.neb.com info@neb.com

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 μ g of pXba DNA in 1 hour at 37°C in a total reaction volume of 50 μ l.
Packaging Lot Number:	10116379
Expiration Date:	07/2023
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®	10116378	Pass	
B7024AVIAL	Gel Loading Dye, Purple (6X)	10108733	Pass	
B6004SVIAL	rCutSmart™ Buffer	10115113	Pass	

Assay Name/Specification	Lot # 10116379
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
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
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
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 37⁰C results in a DNA pattern free	Pass





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Assay Name/Specification	Lot # 10116379
of detectable nuclease degradation as determined by agarose gel electrophoresis.	
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
Protein Purity Assay (SDS-PAGE) KpnI-HF™ is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass

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

One or more products referenced in this document may be covered by a 3rd-party trademark. Please visit www.neb.com/trademarks for additional information.

Penghua Zhang

Penghua Zhang Production Scientist 21 Sep 2021

Much

Michael Tonello Packaging Quality Control Inspector 21 Sep 2021

