

New England Biolabs Certificate of Analysis


Product Name: KpnI
Catalog Number: R0142S
Concentration: 10,000 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: 10058272
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-R0142S/L v2.0

KpnI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0142SVIAL	KpnI	10055766	Pass
B7201SVIAL	NEBuffer™ 1.1	10043905	Pass
B7024SVIAL	Gel Loading Dye, Purple (6X)	10055732	Pass

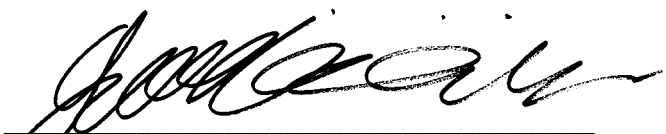
Assay Name/Specification	Lot # 10058272
Blue-White Screening (Terminal Integrity) A sample of pUC19 vector linearized with a 10-fold excess of KpnI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) A 50 µl reaction in NEBuffer 1.1 containing 1 µg of supercoiled PhiX174 DNA and a minimum of 10 units of KpnI incubated for 4 hours at 37°C results in <20% conversion to the nicked form as determined by agarose gel electrophoresis.	Pass
Exonuclease Activity (Radioactivity Release) A 50 µl reaction in NEBuffer 1.1 containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of KpnI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.	Pass
Ligation and Recutting (Terminal Integrity) After a 20-fold over-digestion of pXba DNA with KpnI, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated fragments, >95%	Pass

Assay Name/Specification	Lot # 10058272
can be recut with KpnI.	
<p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in NEBuffer 1.1 containing 1 µg of pXba DNA and a minimum of 50 Units of KpnI 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>Protein Purity Assay (SDS-PAGE) KpnI 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.



Jianying Luo
Production Scientist
23 Oct 2019



Jay Minichiello
Packaging Quality Control Inspector
13 Dec 2019