

New England Biolabs Certificate of Analysis

Product Name: *KpnI*
Catalog Number: *R0142M*
Concentration: *50,000 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: *10036368*
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-R0142M v2.0*

KpnI Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
R0142MVIAl	KpnI	10036367	Pass
B7201SVIAl	NEBuffer™ 1.1	0131803	Pass
B7024SVIAl	Gel Loading Dye, Purple (6X)	10021140	Pass

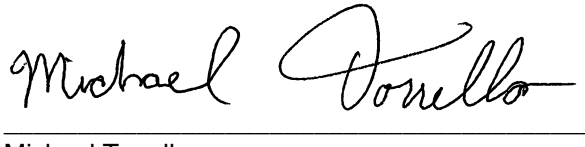
Assay Name/Specification	Lot # 10036368
Blue-White Screening (Terminal Integrity) A sample of pUC19 vector linearized with a 10-fold excess of KpnI, religated and transformed into an E. coli strain expressing the LacZ beta fragment gene results in <1% white colonies.	Pass
Endonuclease Activity (Nicking) 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 # 10036368
<p>can be recut with KpnI.</p> <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>	<p>Pass</p>
<p>Protein Purity Assay (SDS-PAGE) KpnI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.</p>	<p>Pass</p>

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



Tony Spear-Alfonso
Production Scientist
16 Jan 2019



Michael Tonello
Packaging Quality Control Inspector
08 Mar 2019