

New England Biolabs Certificate of Analysis

Product Name: KpnI
Catalog #: R0142M
Concentration: 50,000 units/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 #: 0531301
Assay Date: 01/2013
Expiration Date: 01/2015
Storage Temp: -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 v1.0
Effective Date: 12 Apr 2013

Assay Name/Specification (minimum release criteria)	Lot #0531301
Blue-White Screening (Terminal Integrity) - A sample of pUC19 vector linearized with a 10-fold excess of KpnI, religated and transformed into an <i>E. coli</i> 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 30 Units of KpnI 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 NEBuffer 1.1 containing 1 µg of a mixture of single and double-stranded [³ H] <i>E. coli</i> 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% can be recut with KpnI.	Pass
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.	Pass
Protein Purity Assay (SDS-PAGE) - KpnI is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.	Pass

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* The BSA in this product has been granted an EDQM "Certificate of Suitability" from the European Directorate for the Quality of Medicines (# R1-CEP-2003-204-Rev00) and has been granted a USDA Certificate for Export of Bovine Blood Plasma/Serum for Manufacture into Pharmaceutical Products.

M.W. Southworth

Authorized by
Maurice Southworth
12 Apr 2013



D. Hough

Inspected by
David Hough
12 Apr 2013