

New England Biolabs Certificate of Analysis

Product Name: HpaI
Catalog Number: R0105S
Concentration: 5,000 U/ml
Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 µl.
Lot Number: 10044330
Expiration Date: 03/2021
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-R0105S/L v1.0

| HpaI Component List | | | |
|---------------------|------------------------------|------------|----------------------|
| NEB Part Number | Component Description | Lot Number | Individual QC Result |
| R0105SVIAL | HpaI | 10039766 | Pass |
| B7204SVIAL | CutSmart® Buffer | 10046081 | Pass |
| B7024SVIAL | Gel Loading Dye, Purple (6X) | 10043910 | Pass |

| Assay Name/Specification | Lot # 10044330 |
|---|----------------|
| <p>Endonuclease Activity (Nicking) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of supercoiled pUC19 DNA and a minimum of 15 Units of HpaI incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.</p> | Pass |
| <p>Exonuclease Activity (Radioactivity Release) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of a mixture of single and double-stranded [³H] E. coli DNA and a minimum of 50 units of HpaI incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.</p> | Pass |
| <p>Ligation and Recutting (Terminal Integrity) After a 10-fold over-digestion of Lambda DNA with HpaI, >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 HpaI.</p> | Pass |
| <p>Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart™ Buffer containing 1 µg of Lambda DNA and a minimum of 15 Units of HpaI incubated for 16 hours at 37°C results in a DNA pattern free of</p> | Pass |

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|--|--------------------|
| <p>detectable nuclease degradation as determined by agarose gel electrophoresis.</p> <p>Protein Purity Assay (SDS-PAGE) HpaI 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.



Jianying Luo
Production Scientist
22 Mar 2019



Jay Minichiello
Packaging Quality Control Inspector
15 Aug 2019