

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:	Ncol-HF®
Catalog Number:	R3193S
Concentration:	20,000 U/ml
Unit Definition:	One unit is defined as the amount of enzyme required to digest 1 μ g of Lambda DNA in 1 hour at 37°C in a total reaction volume of 50 μ l.
Packaging Lot Number:	10068686
Expiration Date:	11/2021
Storage Temperature:	-20°C
Storage Conditions:	200 mM NaCl, 10 mM Tris-HCl (pH 7.4), 1 mM DTT, 0.1 mM EDTA, 50% Glycerol, 200 μg/ml BSA
Specification Version:	PS-R3193S/L v1.0

Ncol-HF® Component List				
NEB Part Number	Component Description	Lot Number	Individual QC Result	
R3193SVIAL	Ncol-HF®	10059043	Pass	
B7204SVIAL	CutSmart® Buffer	10069112	Pass	
B7024SVIAL	Gel Loading Dye, Purple (6X)	10065746	Pass	

Assay Name/Specification	Lot # 10068686
Blue-White Screening (Terminal Integrity) A sample of LITMUS28i vector linearized with a 10-fold excess of NcoI-HF™, 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 CutSmart [™] Buffer containing 1 µg of supercoiled PhiX174 DNA and a minimum of 20 Units of Ncol-HF [™] 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 CutSmart [™] Buffer containing 1 µg of a mixture of single and double-stranded [³ H] E. coli DNA and a minimum of 100 units of Ncol-HF [™] 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 Lambda DNA with Ncol-HF™, >95% of the DNA fragments can be ligated with T4 DNA ligase in 16 hours at 16°C. Of these ligated	Pass





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fragments, >95% can be recut with Ncol-HF™.	
Non-Specific DNase Activity (16 Hour) A 50 µl reaction in CutSmart [™] Buffer containing 1 µg of Lambda DNA and a minimum of 100 Units of Ncol-HF [™] 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) Ncol-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.

Penghua Zhang

Penghua Zhang Production Scientist 08 Apr 2020

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Minichiello Packaging Quality Control Inspector 08 Apr 2020

