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New England Biolabs Product Specification

Product Name: DraIII-HF®

Catalog #: R3510S/L/V

Concentration: 20,000 units/ml

Unit Definition:

One unit is defined as the amount of enzyme required to digest 1 µg of Lambda DNA in rCutSmart Buffer in 1 hour at 37°C

in a total reaction volume of 50 µl.

Shelf Life: 24 months
Storage Temp: -20°C

Storage Conditions: 20 mM Tris-HCl, 300 mM NaCl, 1 mM Dithiothreitol, 0.1 mM EDTA, 200 µg/ml rAlbumin, 50% Glycerol (pH

7.4 @ 25°C)

Specification Version: PS-R3510S/L/V v2.0

Effective Date: 15 May 2024

Assay Name/Specification (minimum release criteria)

Exonuclease Activity (Radioactivity Release) - A 50 μ l reaction in rCutSmartTM Buffer containing 1 μ g of a mixture of single and double-stranded [3 H] *E. coli* DNA and a minimum of 200 units of DraIII-HF® incubated for 4 hours at 37°C releases <0.1% of the total radioactivity.

Functional Testing (15 minute Digest) - A 50 μ l reaction in rCutSmartTM Buffer containing 1 μ g of Lambda DNA and 1 μ l of DraIII-HF® incubated for 15 minutes at 37°C results in complete digestion as determined by agarose gel electrophoresis.

Ligation and Recutting (Terminal Integrity) - After a 10-fold over-digestion of Lambda DNA with DraIII-HF \mathbb{R} , ~75% 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 DraIII-HF \mathbb{R} .

Non-Specific DNase Activity (16 Hour) - A 50 μ l reaction in rCutSmartTM Buffer containing 1 μ g of Lambda DNA and a minimum of 20 units of DraIII-HF® incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

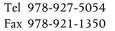
Protein Purity Assay (SDS-PAGE) - DraIII-HF® is >95% pure as determined by SDS PAGE analysis using Coomassie Blue detection.

qPCR DNA Contamination (*E. coli* Genomic) - A minimum of 20 units of DraIII-HF® is screened for the presence of *E. coli* genomic DNA using SYBR® Green qPCR with primers specific for the *E. coli* 16S rRNA locus. Results are quantified using a standard curve generated from purified *E. coli* genomic DNA. The measured level of *E. coli* genomic DNA contamination is ≤ 1 *E. coli* genome.









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Date 15 May 2024

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