

Certificate of Analysis

Lambda DNA:

Part No. Size
D150A 250µg

Description: Lambda DNA *cl857 Sam7* is isolated from infected *E. coli* strain W3350 and is 48,502bp in size. Restriction enzyme-digested lambda DNA generates molecular weight size markers used in gel analysis of nucleic acids. Lambda DNA is also a commonly used substrate in restriction enzyme activity assays. The nucleotide sequence has been determined (1). For restriction map information of Lambda DNA, please see Tables 1A and 1B in Product Information section below (2).

Actual Concentration: ≥300µg/ml. (See the vial label for lot-specific concentration.)

Optical Densities: $A_{260}/A_{250} \geq 1.05$; $A_{260}/A_{280} \geq 1.80$.

Storage Buffer: Lambda DNA is provided in 10mM Tris-HCl (pH 7.5 @ 25°C), 10mM NaCl and 1mM EDTA.

Storage Conditions: Store at -20°C. Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes. See the expiration date on the product label.

Usage Note: Concentration gradients may form in frozen products and should be dispersed upon thawing. Mix well prior to use.

Quality Control Assays

Contaminant Activity

Nuclease Assay: To test for nuclease contamination, 1µg of Lambda DNA is incubated in standard restriction digest buffers for 16 hours at 37°C. Following incubation, 0.5µg of Lambda DNA is visualized on an ethidium bromide-stained agarose gel to verify the absence of visible degradation.

Digestion Assay: Lambda DNA is tested as a suitable substrate for site-specific digestion by restriction enzymes EcoRI, HindIII and DpnI. Following digestion, 0.5µg of Lambda DNA is visualized on an ethidium bromide-stained agarose gel to verify the correct banding pattern for the corresponding enzyme.

Banding pattern for EcoRI: 21,266, 7,421, 5,804, 5,643, 4,878, 3,530.

Banding pattern for HindIII: 23,130, 9,416, 6,557, 4,361, 2,322, 2,027, 564, 125.

DpnI does not cut Unmethylated Lambda DNA but cuts Lambda DNA in excess of 50 times, ensuring it is indeed methylated.

Product Information

Table 1A. Enzymes with a Single Recognition Site in Lambda DNA.

Apal	NaeI	NarI	NgoMI	NheI	SnaBI
SpII	XbaI	XhoI			

Table 1B. Enzymes with No Recognition Sites in Lambda DNA.

NotI	SfiI	SgfI	SpeI
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References

1. Sanger, F. *et al.* (1982) Nucleotide sequence of bacteriophage lambda DNA. *J. Mol. Biol.* **162**, 729-73.
2. Brown, T.A. (1991) In: *Molecular Biology: Labfax*, Hames, B.D. and Rickwood, D., series eds., Academic Press and BIOS Scientific Publishers Limited, CA, 265.

Signed by:

R. Wheeler, Quality Assurance

Lambda DNA

REF D1501

-30°C -10°C

Conc: 526µg/ml
250µg

LOT 0000328418

2023-12-03

Dispensed Lot#: 0000325649

For Laboratory Use

Country of Origin: USA

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ADD1501 00003284187

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Part# 9PID150
Printed in USA. Revised 4/18