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Product Information

Lambda Phage DNA, Non-methylated
from *Escherichia coli* host strain GM119
(r_m^- , dam^- , dcm^-)

Catalog Number **D3654**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 91080-14-7

Product Description

Lambda phage has an icosahedral head and a long tail terminating in a single fiber. At both ends of the 5'-termini are complementary 12-nucleotide single strand sequences that contribute to the cohesive ends (cos region) of the DNA. The tail of the phage latches on the host outer membrane receptor and injects phage DNA into the cell. The phage converts the *E. coli* to a lysogenic state in which the phage functions are repressed and the phage genome may remain dormant (prophage) for a long time. This property is seen in bacteriophages that carry CII and CIII genes that are responsible for CI expression. Bacteriophages with CI mutation in the CI gene are able to maintain a lysogenic state at defined temperatures.

This product is made by infecting *E. coli* strain GM 119 with lambda C1857 strain, creating *E. coli* lysogen cultures. The phage is released from *E. coli* cell pellets by lysing with a high salt buffer, pH 8.0. The crude mixture is passed through a series of enzymatic steps, multiple cesium gradients, and phage DNA is dialyzed against 1 mM Tris-HCl, pH 8.0, and 1 mM magnesium chloride. The DNA is finally extracted by phenol-chloroform solution.

Molecular mass:
 31.5×10^3 kDa
48,502 base pairs

Unique Sites: *Apa* I, *Nae* I, *Nar* I, *Nhe* I, *Pae*R7 I,
*Sna*B I, *Xba* I, *Xho* I

Non-methylated DNA is completely digested by *Bcl* I, *Cla* I, *Mbo* I, *Mbo* II, *Taq* I, or *Xba* I; whereas, methylated DNA (Catalog Numbers D9768 or D3779) is only partially cleaved by these enzymes.

The product is suitable as a substrate for restriction endonucleases.

The product is supplied in a solution containing 10 mM Tris-HCl, pH 8.0, with 1 mM EDTA.

One A_{260} unit is $\sim 50\text{ }\mu\text{g}$ of DNA.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at $-20\text{ }^{\circ}\text{C}$ is recommended.

References

1. Sanger, F., *et al.*, Nucleotide sequence of bacteriophage lambda DNA. *J. Mol. Biol.*, **162**, 729-773 (1982).

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