

## Phage DNA Isolation Kit

Norgen's Phage DNA Isolation Kit provides a rapid method for the isolation and purification of total DNA from bacteriophages propagated in bacteria grown in liquid cultures. The DNA is isolated without the use of phenol, chloroform or cesium chloride. The spin-column based procedure is rapid, and can be completed in less than 45 minutes. The kit is highly efficient for processing small volumes of phage supernatant (500 µL – 1 mL). The purified DNA is of the highest integrity, and can be used in a number of downstream applications including Southern Blot, Restriction Fragment Length Polymorphism (RFLP), sequencing, cloning and real time PCR.



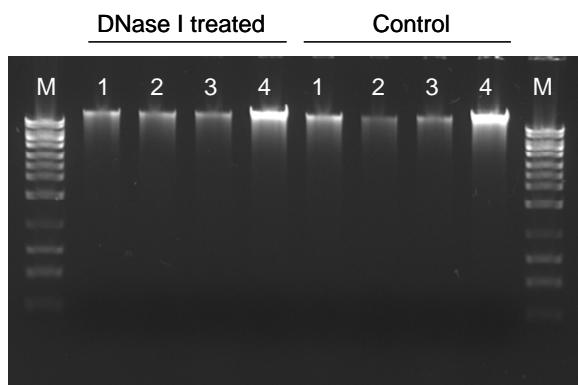
Kit Specifications			
Column Binding Capacity	50 µg	Size of DNA Purified	All sizes
Maximum Column Loading Volume	650 µL	Time to Complete 10 Purifications	45 minutes
Maximum Amount of Starting Material: 1 × 10 <sup>10</sup> pfu/mL enriched phages		Average Yield*: 3-15 µg DNA from 10 <sup>6</sup> -10 <sup>10</sup> pfu/ mL of enriched phages	

\* Average yield will vary depending upon a number of factors including type of phage, growth conditions used and developmental stage.

### Phage DNA Isolation Kit Benefits

Fast and easy processing	Rapid spin-column format allows for the processing of multiple samples in 45 minutes.
No phenol extraction or cesium chloride banding	Isolate total phage DNA with a simple spin-column format; no phenol extraction or cesium chloride banding required.
Versatile procedure	Isolate total phage DNA from a variety of phage strains.
High yield of total DNA	Isolate 3-15 µg of DNA from 10 <sup>6</sup> -10 <sup>10</sup> pfu/ mL of enriched phages.
Recovered DNA is suitable for downstream applications	Purified total DNA is compatible with Southern Blot, Restriction Fragment Length Polymorphism (RFLP), sequencing, cloning and real time PCR.

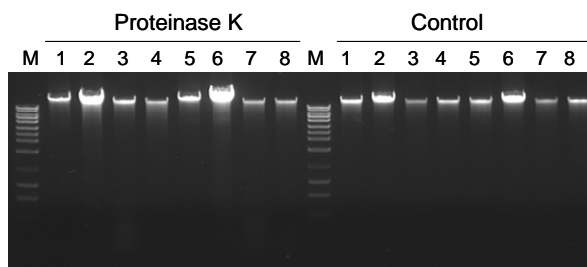
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**Figure 1. Effective Host Genomic DNA Removal without Reducing Phage DNA Yield.** Total DNA was isolated from four enriched phage cultures using Norgen's Phage DNA Isolation Kit. A DNase I pre-treatment was performed prior to performing the isolation procedure. As a control, DNA was isolated from aliquots of the same 4 cultures using Norgen's Phage DNA Isolation Kit without performing the DNase I treatment. For DNA analysis 10  $\mu$ L of each 50  $\mu$ L elution was loaded onto a 1X TAE agarose gel. As it can be seen, the phage DNA was safely protected from the DNase I treatment by its coat protein, while the host genomic DNA was efficiently degraded by the DNase I. Thus the DNase I pre-treatment resulted in less host gDNA contamination in the final phage DNA elution without influencing the total phage DNA yield. Lane M is Norgen's Highranger 1 kb DNA Ladder (Cat. 11900)

### Phage DNA Isolation Kit Contents

1. Lysis Solution
2. Binding Buffer
3. Wash Solution
4. Elution Buffer
5. Spin columns inserted into collection tubes
6. Elution tubes
7. Product Insert



**Figure 2. Optional Proteinase K Treatment Improves DNA Yield for Certain Phage Strains.** Total DNA was isolated with and without the optional Proteinase K treatment using Norgen's Phage DNA isolation kit. For DNA analysis 10  $\mu$ L of each 50  $\mu$ L elution was loaded onto a 1X TAE agarose gel and the yield of DNA was compared from the eight different phage types (lane 1 to 8). As it can be seen, the optional treatment of Proteinase K improved the phage DNA yield in Lanes 2, 5 and 6 dramatically. Lane M is Norgen's Highranger 1 kb DNA Ladder (Cat. 11900)

### Customer-Supplied Reagents and Equipment

- Benchtop microcentrifuge
- 96-100 % ethanol
- 99-100% isopropanol
- Heating block or water bath
- Proteinase K - 20 mg/mL (optional)
- DNase I (optional)

### Storage Conditions

All solutions should be kept tightly sealed and stored at room temperature. All the reagents should remain stable for at least 1 year in their unopened containers.

### Shipping Conditions

The Phage DNA Isolation Kit is shipped at room temperature.

Cat #	Description	Quantity
46700	Phage DNA Isolation Kit	25 samples
46800	Phage DNA Isolation Kit	50 samples