

Phage DNA Isolation Kit

A rapid spin column method for the purification
of total DNA from bacteriophages



- ✓ Isolate high quality DNA from a broad variety of phage strains propagated in bacteria grown in liquid culture
- ✓ High yields of total DNA
- ✓ No phenol or chloroform extractions or cesium chloride banding required
- ✓ Fast and easy processing using a rapid spin-column format
- ✓ High yields of DNA recovered: 3-15 μg DNA from 10^6 - 10^{10} pfu/mL of enriched phages



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 adding the provided Lysis Buffer. Briefly, 20 units of DNase I was added to 1 mL of enriched phage culture and the mixture was incubated at room temperature for 20 minutes. After the DNase I treatment the procedure was followed. 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 μ L of each 50 μ 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 elution without influencing the total phage DNA yield. Lane M is Norgen's Highranger 1 kb DNA Ladder (Cat. 11900).

Kit Specifications	
Column Binding Capacity	50 μ g
Maximum Column Loading Volume	650 μ L
Size of DNA Purified	All Sizes
Maximum Amount of Starting Material	1 x 10 ¹⁰ pfu/mL enriched phages
Average Yield*	3-15 μ g DNA from 10 ⁶ -10 ¹⁰ pfu/mL of enriched phages
Time to Complete 10 Purifications	45 minutes

* Average yields will vary depending upon a number conditions used and developmental stage.

Select Publications

Publication Title	Authors	Journal	Year
Genome Sequences of Five Additional Brevibacillus laterosporus Bacteriophages	Bryan D. Merrill <i>et al.</i>	Genome Announcements	2015
Sewage as a rich source of phage study against <i>Pseudomonas aeruginosa</i> PAO	Reza Azizian <i>et al.</i>	Biologicals	2015
Comparative analysis of multiple inducible phages from <i>Mannheimia haemolytica</i>	Yan D. Niu, Shaun R. Cook, Jiaying Wang, Cassidy L. Klima, Yu-hung Hsu, Andrew M. Kropinski, Dann Turner and Tim A. McAllister	BMC Microbiology	2015
Covalent Modification of Bacteriophage T4 DNA Inhibits CRISPR-Cas9	Alexandra L. Bryson <i>et al.</i>	mBio	2015
Characterization of a novel bacteriophage, Phda1, infecting the histamine-producing <i>Photobacterium damsela</i> subsp. <i>damsela</i>	Shogo Yamaki, Yuji Kawai and Koji Yamazaki.	Journal of Applied Microbiology	2015
Phage-Encoded Colanic Acid-Degrading Enzyme Permits Lytic Phage Infection of a Capsule-Forming Resistant Mutant <i>Escherichia coli</i> Strain.	Min Soo Kim, Young Deuk Kim, Sung Sik Hong, Kwangseo Park, Kwan Soo Ko and Heejoon Myung.	Applied and Environmental Microbiology	2015
Evidence That the Heterogeneity of a T4 Population Is the Result of Heritable Traits.	Zachary J. Storms, Dominic Sauvageau.	PLOS ONE	2014

Ordering Information

Kit Name	Size	Cat. No
Phage DNA Isolation Kit	50 preps	46800
Phage DNA Isolation Kit	100 preps	46850
RNase-Free DNase I Kit	50 rxns	25710
RNase-Free DNase I Kit	200 rxns	25720



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