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WORKS FOR ME 1

Protocol collection: Phage DNA isolation and chemical analysis

COMMENTS 0

DOI
dx.doi.org/10.17504/protocols.io.e6nvwj6w2lmk/v1

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ABSTRACT

Bacteriophages (phages) are viruses that infect bacteria. Some phages chemically modify their genomes to protect them from degradation by bacterial immune systems. We can detect phage genome modifications with mass spectrometry (MS) and high-performance liquid chromatography (HPLC) of phage nucleosides. This collection contains protocols for the entire process: phage growth and concentration, DNA extraction, and chemical analysis of phage nucleosides. We optimized these protocols using *E. coli* phage T4 and *B. subtilis* phage SPO1.

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COLLECTION CITATION

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Protocol

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Phage amplification and concentration

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Protocol

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Phage DNA extraction with Monarch kit and digestion to single nucleosides

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Phage DNA extraction with phenol-chloroform and digestion to single nucleosides

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Nucleoside analysis with high performance liquid chromatography (HPLC)

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Nucleoside analysis with liquid chromatography–tandem mass spectrometry (LC–MS/MS

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