Bacteriophage Phi05_1387UV/Ec1457, Infectious for *Escherichia coli*

Catalog No. HM-673

For research use only. Not for human use.

**Contributor:**
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**Manufacturer:**
BEI Resources

**Product Description:**

**Virus Classification:** Caudovirales, Myoviridae, Unclassified Myoviridae

**Family:** Myoviridae

**Strain/Isolate:** phi05_1387UV/Ec1457

**Host:** *Escherichia coli*

**Original Source:** Bacteriophage phi05_1387UV/Ec1457 was isolated from a blood sample taken from a patient with septicemia.1

**Comments:** Bacteriophage phi05_1387UV/Ec1457 (HMP ID 9783) is a reference genome for The Human Microbiome Project (HMP). HMP is an initiative to identify and characterize human microbial flora. The complete genome of bacteriophage phi05_1387UV/Ec1457 is currently being sequenced at the J. Craig Venter Institute.

**Note:** HMP material is taxonomically classified by the depositor. Quality control of these materials is only performed to demonstrate that the material distributed by BEI Resources is identical to the deposited material.

Bacteriophage phi05_1387UV/Ec1457 is a highly selective virus that is extremely effective at lysing *Escherichia coli*, (*E._coli*), a major facultative inhabitant of the large intestine.2 Bacteriophage phi05_1387UV/Ec1457 belongs to the unclassified Myoviridae family of viruses3, which are non-enveloped and display contractile, filamentous tails, linear dsDNA, and hexagonal capsids.

**Material Provided:**
Each vial contains approximately 0.5 mL of bacteriophage in Luria-Burtoni (LB) broth supplemented with 10 mM MgSO₄ and 20% glycerol.

**Packaging/Storage:**
HM-673 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -20°C or colder immediately upon arrival. For long-term storage, the product should be stored at -80°C or colder or in the vapor phase of a liquid nitrogen freezer. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

**Host:** *E. coli* (strain Ec1457 recommended)

**Growth medium for host:**
Nutrient broth or equivalent
Nutrient agar or equivalent

**Incubation of host:**
Temperature: 37°C
Atmosphere: Aerobic

**Propagation of host:**

**Note:** Host homogeneity is recommended for your intended use, please colony-purify your bacterial host prior to use.
1. Keep bacterial stock frozen until ready for use, then thaw.
2. Transfer a thawed aliquot into a single tube of broth.
3. Incubate the tube at 37°C for 24 hours.

**Growth medium for bacteriophage:**
LB agar supplemented with 10 mM MgSO₄ or equivalent
LB soft agar overlay (0.5%) supplemented with 10 mM MgSO₄ or equivalent

**Incubation of host with bacteriophage:**
Temperature: 30°C
Atmosphere: Aerobic

**Propagation of bacteriophage:**
1. Prior to opening the vial, an actively growing broth culture (24-hour incubation) of the recommended host strain should be prepared. Keep bacteriophage vial frozen until ready for use, then thaw.
2. Pre-warm plates and overlay the surface with 2.5 mL of melted 0.5% agar containing 1 to 2 drops of the host. Allow overlay to harden.
3. Prepare serial dilutions of thawed bacteriophage (if desired) and spot onto the plate. Allow to dry.
4. Incubate the plate at 30°C for 24 hours.

**Note:** Spotting the phage on plates makes visualizing the lysis easier. If phage is added directly to soft-agar before pouring plates, hazy or tiny plaques may be difficult to see. Resistant host bacteria may also mask plaque formation.

**Cytopathic Effect:** Lysis of *E. coli*; individual plaques should be countable at higher dilutions.

**Citation:**
Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH as part of the Human Microbiome Project: Bacteriophage Phi05_1387UV/Ec1457, Infectious for *Escherichia coli*, HM-673.”

**Biosafety Level:** 2


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References:
3. HMP ID 9783 (Bacteriophage phi05_1387UV/Ec1457)

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