

**Bacteriophage Phi05_2289M/Sa1303,
Infectious for *Staphylococcus aureus***

Catalog No. HM-679

For research use only. Not for human use.

Contributor:

Dennis Bamford, Ph.D., Institute of Biotechnology, University of Helsinki, Helsinki, Finland

Manufacturer:

BEI Resources

Product Description:

Virus Classification: *Caudovirales, Siphoviridae, Unclassified Siphoviridae*

Species: Bacteriophage phi05_2289M/Sa1303

Host: *Staphylococcus aureus*

Original Source: Bacteriophage phi05_2289M/Sa1303 was isolated from Sa05_2289 bacterium derived from blood taken from a patient with septicemia.^{1,2}

Comments: Bacteriophage phi05_2289M/Sa1303 ([HMP ID 9790](#)) 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_2289M/Sa1303 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_2289M/Sa1303 is a highly selective virus that is extremely effective at lysing *Staphylococcus aureus* (*S. aureus*), a major causative agent for opportunistic and/or nosocomial infections, pyrogenic inflammatory diseases, food-poisoning and toxic shock syndrome.³ Bacteriophage phi05_2289M/Sa1303 belongs to the unclassified *Siphoviridae* family of viruses, which are non-enveloped and display noncontractile, filamentous tails, linear dsDNA and hexagonal capsids.

Material Provided:

Each vial contains approximately 0.5 mL of bacteriophage in Luria-Burtani (LB) Broth supplemented with 10 mM MgSO₄ and 20% glycerol.

Packaging/Storage:

HM-679 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: *S. aureus* (strain Sa1303 recommended)

Growth medium for host:

Tryptic Soy Broth or equivalent

Tryptic Soy 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 bacteriophage²:

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 *S. aureus*; 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_2289M/Sa1303, Infectious for *Staphylococcus aureus*, HM-679."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. [Biosafety in Microbiological and Biomedical Laboratories](#). 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Dennis Bramford, personal communication.
2. [HMP ID 9790](#) (Bacteriophage Phi05_2289M/Sa1303)
3. Matsuzaki, S., et al. "Bacteriophage Therapy: a Revitalized Therapy against Bacterial Infectious Diseases." *J. Infect. Chemother.* 11 (2005): 211-219. PubMed: 16258815.
4. Gaidelyte, A., M. Vaara and D. H. Bamford. "Bacteria, Phages and Septicemia." *PLoS One* 2 (2007): e1145. PubMed: 18188406.

ATCC® is a trademark of the American Type Culture Collection.

