ATCC

Product Sheet

Escherichia coli bacteriophage MS2 (ATCC® 15597-B1™)

Please read this FIRST

Storage Temp.
Frozen: -80°C or colder
Freeze-Dried: 2°C to 8°C
Live Culture: See Propagation Section

Biosafety Level
1

Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Escherichia coli bacteriophage MS2* (ATCC® 15597-B1™)

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Or contact your local distributor

Description

Designation: MS2
Deposited Name: MS2

Propagation

Medium
ATCC® Medium 271: Escherichia medium

Growth Conditions
Temperature: 37°C
Atmosphere: Aerobic

Propagation Procedure

1. Follow general procedures given below for phage propagation.
2. Use *Escherichia coli* strain C-3000 (ATCC® 15597™) as host.

GENERAL PROCEDURES FOR THE PROPAGATION OF BACTERIOPHAGE
To recover phage from freeze-dried or thawed frozen vial:

1. Prepare an actively growing broth culture of the recommended host strain from a frozen stock before opening the phage specimen. The host should be 6 hours old or at least 24 hours old if needed. Repeated passage of this host may result in hazy plaques.
2. Add approximately 1.0 mL of the recommended broth to a freeze-dried phage vial, 0.5 mL to a liquid cryovial.
3. Pre-warm plates of the recommended medium in an incubator. Overlay the surface with 2.5 mL of melted 0.5% agar (same medium) which contains one drop of the 6 hour host, or a 24 hour old host if needed. The soft agar should be maintained at 43°C to 45°C till ready to pour. It may be advisable to use a water bath. Allow overlay to harden.
4. The re-hydrated phage can be serially diluted by passing 0.5 mL of the phage into a tube containing 4.5 mL of the broth medium. Repeat for as many passages as desired.
5. 100 µL of each dilution is spotted on the surface of the prepared plates. Allow to dry. Three to four dilutions can be placed on each plate. After overnight incubation, lysis should be visible. At the higher dilutions, individual plaques should be countable.
6. Many strains may also be titrated without a soft-agar overlay. Pipette approximately 1.0 mL of the host onto the surface of each plate. After tilting plate to ensure the entire surface is covered, the excess liquid is aspirated off. After the surface dries, the various dilutions of the phage are dropped onto the surface as before.

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.

To propagate phage:

1. Phage may be propagated by preparing plates with the soft-agar/host overlay as above and covering the surface with approximately 0.5 mL of the concentrated phage. Alternatively, you may add the phage directly to the melted agar/host before pouring over the plates. For larger amounts, large-size T-flasks can be prepared with the recommended agar, and approximately 12.0 mL of melted soft-agar/host poured over the surface. Phage is then allowed to run over hardened surface. Phage may also be added directly to melted soft-agar before pouring as described above.
2. After 24 hours incubation, the soft agar is scraped off the surface of the agar plates. Centrifuge at about 1000 rpm for 25 minutes to sediment the cellular debris and agar. Conserve the supernatant.
3. This supernatant is passed through a .22 um Millipore filter and the filtrate may be stored at 4-8°C for a brief time. The phage should be frozen with or without cryoprotectant if kept for more than a few days. If available, liquid nitrogen storage is the best method for long term storage. Most phage can also be freeze-dried, using double-strength skim milk mixed half-and-half with the filtrate.

NOTE: Broth propagation methods may also be employed with most phage. Unless otherwise noted, ATCC® uses the Adams agar-overlay method as described in M. H. Adams' Bacteriophages (Interscience Publishers, Inc., New York, 1959) for routine phage production.

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Notes

If phage is added to overlay before pouring over plates, it may not be possible to see individual plaques. Therefore, we recommend that each phage dilution be spotted onto plates seeded with the host. The same is true for broth propagation. The ready production of resistant *E. coli* prevents the broth from clearing. Host range of this phage has not been tested.

It has been reported that the titer of the filtrate will rapidly drop if kept at refrigerator temperatures.

Additional information on this culture is available on the ATCC® web site at www.atcc.org.

References

References and other information relating to this product are available online at www.atcc.org.

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the *Biosafety in Microbiological and Biomedical Laboratories* from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

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Please see the enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at www.atcc.org

Additional information on this culture is available on the ATCC web site at www.atcc.org.
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