# *Escherichia coli* bacteriophage NCIB 11233

**35060-B1™**

## Description

**Strain designation:** NCIB 11233 [T4am A453 gene 32]
**Deposited As:** T4

## Storage Conditions

**Product format:** Freeze-dried
**Storage conditions:** 2°C to 8°C

## Intended Use

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

## BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

ATCC highly recommends that appropriate personal protective equipment is always used when handling vials. For cultures that require storage in liquid nitrogen, it is important to note that some vials may leak when submersed in liquid nitrogen and will slowly fill with liquid nitrogen. Upon thawing, the conversion of the liquid nitrogen back to its gas phase may result in the vial exploding or blowing off its cap with dangerous force creating flying debris. Unless necessary, ATCC recommends that these cultures be stored in the vapor phase of liquid nitrogen rather than submersed in liquid nitrogen.

## Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

## Growth Conditions

**Host:** *Escherichia coli* NCIB 11265 (ATCC 35060)
**Medium:**
ATCC Medium 129: Nutrient agar/stabs/broth with 0.5% NaCl
**Temperature:** 37°C
**Atmosphere:** Aerobic

## Handling Procedures

1. Follow general procedures given below for phage propagation.
2. Use ATCC® 35060™, *Escherichia coli*, as host.

GENERAL PROCEDURES FOR THE PROPAGATION OF BACTERIOPHAGE

To recover phage from freeze-dried or frozen vial:

a. Prepare an actively growing broth culture of the recommended host strain before opening the phage specimen. The host should be 18-24 hours old.
b. Add approximately 1.0 mL of the recommended broth to a freeze-dried phage vial, 0.5 mL to a liquid cryovial.
c. 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 or two drops of the 18-24 hour host. The soft agar should be maintained 43 to 45°C till ready to pour. It may be advisable to use a water bath. Allow overlay to harden.
d. The re-hydrated phage can be serially diluted by passing 0.1 mL of the phage into a tube containing 0.9 mL of the broth medium. Repeat for as many passages as desired.
e. 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:

a. 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. Or, 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.
b. 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.
c. This supernatant is passed through a .22 µm Millipore filter and the filtrate stored at 4-8°C. Lysates should remain viable under refrigeration for long

periods. They may also be frozen with or without cryoprotectant. If available, liquid nitrogen storage is the best method for long term storage. Most phage can also be freeze-dried. We use 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.

## Notes

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

## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Escherichia coli* bacteriophage NCIB 11233 (ATCC 35060-B1)

## References

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

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## Revision

This information on this document was last updated on 2025-04-11

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