



Methanosphaera stadtmanae Miller and Wolin

43021™

Description

Type strain. Hydrogen is used as an electron donor to reduce methanol to methane.

Strain designation: MCB-3

Deposited As: *Methanosphaera stadtmanae* Miller and Wolin

Type strain: Yes

Storage Conditions

Product format: Frozen

Storage conditions: -80°C or colder

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

Medium:

ATCC Medium 1551: Methanomicrobium medium

Temperature: 37°C

Atmosphere: 80% H₂, 20% CO₂

Handling Procedures

1. Open thawed vial according to enclosed instructions or visit www.atcc.org for instructions.
2. Under anaerobic conditions aseptically transfer the entire contents to a 5-6 mL tube of #1551 broth. Additional test tubes can be inoculated by transferring 0.5 mL of the primary broth tube to these secondary broth tubes. Best practice

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dictates the use of pre-reduced media, in this instance, 1% methanol and a 1% concentration of 3% cysteine. The headspace should be exchanged with 80% H₂ - 20% CO₂ gas.

3. Incubate in an anaerobic atmosphere at 37°C for 3-5 days. Incubate one agar plate aerobically at 37°C to check for contamination.

ANAEROBIC CONDITIONS:

Anaerobic conditions for transfer may be obtained by the use of an anaerobic gas chamber or placement of test tubes under a gassing cannula system connected to anaerobic gas.

Anaerobic conditions for incubation may be obtained by any of the following:

- Loose screw caps on test tubes in an anaerobic chamber
- Loose screw caps on test tubes in an activated anaerobic gas pack jar
- Use of sterile butyl rubber stoppers on test tubes so that an anaerobic gas headspace is retained

Notes

This item produces methane as a result of methanol reduction. Test tubes may need to be vented daily to prevent over-pressurization.

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: *Methanosphaera stadtmanae* Miller and Wolin (ATCC 43021)

References

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

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