



Product Sheet

# *Methanococcus maripaludis* (ATCC® 43000™)

Please read this **FIRST**



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

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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: *Methanococcus maripaludis* (ATCC® 43000™)

American Type Culture Collection  
PO Box 1549  
Manassas, VA 20108 USA  
[www.atcc.org](http://www.atcc.org)

800.638.6597 or 703.365.2700  
Fax: 703.365.2750  
Email: [Tech@atcc.org](mailto:Tech@atcc.org)

Or contact your local distributor

## Description

**Designation:** DSM 2067 [JJ]  
**Deposited Name:** *Methanococcus maripaludis* Jones et al.  
**Product Description:** Type strain

## Propagation

**Medium**  
ATCC® Medium 1439: Methanogenium medium

**Growth Conditions**  
**Temperature:** 37°C  
**Atmosphere:** Anaerobic gas mixture, 80% H<sub>2</sub>-20% CO<sub>2</sub>

- Propagation Procedure**
1. Sterilize the top of the Balch tube by spraying it with 70% ethanol and then flaming the top.
  2. If needed exchange the gas in the test tube for 80% H<sub>2</sub>-20% CO<sub>2</sub>.
  3. If the medium is pink (see discussion about resazurin) add 2.0 mL of reducing agent (3% cysteine, stock solution) per 100 mL of medium. Let the medium sit at room temperature for 10 to 20 minutes, until the resazurin becomes colorless, before inoculating.
  4. After the Balch tube is ready to be inoculated let the frozen vial thaw at room temperature under a gentle stream of sterile oxygen free gas.
  5. Using a 1.0 mL syringe tipped with 22 gauge needle, withdraw the cell suspension from the vial and transfer it to the broth and incubate at 37°C. Plate 0.1 mL of the inoculated culture onto a non-selective medium and incubate aerobically at 37°C.
  6. Growth should be detected in the broth within 48 to 96 hours. No growth should be detected on the aerobic plate or broth.

## ANAEROBIC CONDITIONS:

- Resazurin is a commonly used redox indicator that is pink when the redox potential is above -50 mv, and colorless when the redox potential is below -110 mv. i.e. highly reducing. Most strict anaerobes require this low redox potential for optimum growth.
- To obtain a fully reduced medium, it is necessary that the medium be anoxic and that a reducing agent be added. Common reducing agents are sodium sulfide, cysteine, dithiothreitol, and titanium citrate.
- Syringes can be made anaerobic by one of two methods.
  1. Displace the dead space in the syringe with a sterile
  2. Displace the dead space in the syringe with a reducing agent.

## Notes

It has been our experience that greater headspace leads to better growth. Therefore, 25 mL Balch (Hungate) tubes with 4-5 mL of medium should be used. It is also recommended that you pressurize the headspace with at least 20 psi to allow for good gas exchange. For good growth, gas the culture every day for 5 to 6 days. Additional information on this culture is available on the ATCC® web site at [www.atcc.org](http://www.atcc.org).

## References

References and other information relating to this product are available online at [www.atcc.org](http://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.

## ATCC Warranty

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media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this product. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

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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](http://www.atcc.org)

Additional information on this culture is available on the ATCC web site at [www.atcc.org](http://www.atcc.org).

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