



Methanosarcina barkeri Schnellen

43241™

Description

Strain designation: 227 [DSM 1538]

Deposited As: *Methanosarcina barkeri* Schnellen

Type strain: No

Storage Conditions

Product format: Frozen

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 1043: Methanosarcina medium

Temperature: 37°C

Atmosphere: 80% H₂, 20% CO₂

Handling Procedures

1. Sterilize the top of the Hungate test tube with 70% ethanol.
2. Exchange gas in the Hungate test tube for 80% H₂ - 20% CO₂. Do not pressurize above 5psi.
3. If the medium is oxidized (*see discussion about resazurin below*) all 0.1 ml of reducing agent (*see above*) to the medium and let the medium sit for at least 30 minutes before inoculating.

4. When the Hungate test tube is ready to be inoculated, place the frozen vial under a stream of oxygen free gas and thaw at room temperature.
5. Using a syringe in which the dead space has been filled with an anaerobic gas mixture or reducing agent (*see below*), withdraw the cell suspension from vial and transfer to a single tube (5 to 6 ml) of the recommended broth.
- 6. Use several drops of the suspension to inoculate a #260 Tryptic Soy Agar (BD 236950) with 5% Defibrinated Sheep Blood agar plate to be incubated aerobically to check for aerobic contamination**
7. While wearing safety glasses, increase the pressure of the 80% H₂ - 20% CO₂ gas to 20 psi. Incubate the tubes and plate at 37°C for 4 to 7 days.

ANAEROBIC CONDITIONS:

- a. Balch tube refers to a special type of test tube that is designed to be pressurized and is suited for anaerobic work. The Balch test tubes can be purchased from Bellco Glass (www.bellcoglass.com; stock no. 2048-00150).
- b. 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.
- c. 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.

Notes

Within 4 to 7 days, growth should be evident by turbidity that settles to the bottom of the test tube.

Using the syringe transfer method, you must make the transfer as quickly as possible. Sometimes during transfer, the medium will oxidize and turn pink (due to resazurin), however it may reduce itself back to the clear broth color during incubation. If the color does not change back, anaerobic conditions were not met

and the culture will not grow.

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

Photomicrograph 1000X

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Methanosarcina barkeri* Schnell (ATCC 43241)

References

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

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