Mesotoga prima Nesbø et al.

BAA-2239™

Description

Mesotoga prima strain MesG1.Ag.4.2 is a thermophilic bacterial type strain that was isolated in Baltimore, Maryland, from sediment in Baltimore Harbor.

Strain designation: MesG1.Ag.4.2
Deposited As: *Mesotoga primus*
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 2816: Mesotoga primus Medium
Temperature: 42-45°C
Atmosphere: 100% N_2

Handling Procedures

1. Sterilize the top of the Balch tube by spraying it with 70% ethanol then flaming the top.
2. If needed, exchange the gas in the test tube for 100% N_2.
3. If the medium is pink (see discussion about resazurin), add 0.1 - 0.15 mL drop of reducing agent (3% Cysteine stock solution for each 6-10 mL of medium. Let

the medium sit at room temperature for at least 30 minutes, overnight if possible. The resazurin must be colorless before inoculating.

4. Thaw the vial at room temperature under anaerobic conditions. Take an anaerobic 1.0 mL syringe (see Anaerobic Conditions D below) tipped with a 22 gauge needle and withdraw the entire contents of the vial and transfer it to the Balch tube. Secondary pre-reduction tubes of medium can be inoculated with 0.5 mL from the primary. Plate 0.1 mL of the inoculated culture onto a non-selective medium and incubate aerobically at 37°C. Incubate the broth tube at 42-45°C.
5. Growth should be detected in the broth within 48 to 17 hours. Nor growth should be detected on the aerobic plate or broth.

ANAEROBIC CONDITIONS:

A. Balch tubes (available from Bellco Glass, Vineland, NJ) are specifically designed for anaerobic work. Use an aluminum-crimp cap to hold a rubber stopper in place. Needles can be inserted easily through the stopper and the tubes can be pressurized to 2 atm. Alternatively, serum vials or screw cap tubes with butyl rubber stoppers may be used. In the case of the latter, the stopper may be removed and the tube placed under a cannula system that dispense sterile, oxygen-free gas for addition of reducing agents or inoculation.
B. Resazurin is a commonly used redox indicator that is pink when the redox potential is above -50 mv and colorless when the potential is below -110 mv; i.e. highly reducing. More 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 agent are sodium sulfide, cysteine, dithiothreitol, and titanium citrate.
D. Syringes can be made anaerobic by one of two methods:
    1. Displace the dead space in the syringe with a sterile, oxygen-free gas.
    2. Displace the dead space in the syringe with a reducing agent.

Notes

Once growth has been established, the culture should be transferred every 3 to 6 days.

The culture will remain viable for 1 week if stored at room temperature and

maintained under anaerobic conditions.

Cells appear as short rod with swollen ends that occur singly, in pairs, and in small clumps.
When examined under phase microscopy, the sheath can sometimes be detected.

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: *Mesotoga prima* Nesbø et al. (ATCC BAA-2239)

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 2025-10-01

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