Desulfurococcus mobilis Zillig and Stetter

35582™

Description

Strain designation: Hv3(9) [DSM 2161]
Deposited As: *Desulfurococcus mobilis* Zillig and Stetter
Type strain: Yes

Storage Conditions

Product format: Freeze-dried

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 1558: Desulfurococcus medium
Temperature: 88°C
Atmosphere: Anaerobic

Handling Procedures

1. Sterilize the top of the Balch tube (see below) by spraying it with 70% ethanol and then flaming the top.

2. If needed exchange the gas in the test tube for 100% N_2 or 80% N_2 20% CO_2.

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 do not inoculate until the resazurin

becomes colorless.

4. When the Balch tube is ready to inoculate, open the vial according to enclosed instructions.

5. For inoculation, use an anaerobic 1.0 ml syringe (*see below*) tipped with 22 gauge needle. Withdraw 0.5 ml of #1558 broth and use this to rehydrate the freeze dried pellet. Immediately place the rehydrated vial under a stream of sterile oxygen-free gas.

6. Using the same syringe, transfer the rehydrated cell suspension back to a tube of #1558 broth. Plate 0.1 ml of the inoculated culture onto a non-selective medium and incubate aerobically at 37ºC. Inoculate a nonselective anaerobic and aerobic broth. Incubate the inoculated tubes at 75 to 85ºC.

7. Growth should be detected in the #1558 broth within 24 to 48 hours. There should be no growth detected on the aerobic plate. There should be no growth in the nonselective aerobic or anaerobic broth.

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 form 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.

d. Syringes can be made anaerobic by one of two methods. 1. Displace the dead space in the syringe with a sterile

Notes

When examined microscopically, the cells appear as typical single (some pairs), cocci.

Always use freshly prepared anaerobic medium. If there is any question about the anaerobic condition of the medium, the medium can be reduced with the addition of 3.0% cysteine

(1.0 ml per 100 ml of medium).

Other commonly used reducing agents are sodium sulfide, cysteine, dithiothreitol, and titanium citrate. Cysteine is the reducing agent of choice since it does not cause the ferrous ammonium sulfate to precipitate.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Desulfurococcus mobilis* Zillig and Stetter (ATCC 35582)

References

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

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Revision

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