Geobacter pickeringii

BAA-1140™

Description

Strain designation: G13
Deposited As: *Geobacter pickeringii*
Type strain: No

Storage Conditions

Product format: Freeze-dried
Storage conditions: 2°C to 8°C

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 2635: *Desulfuromonas michiganenesis* Medium
Temperature: 30°C
Atmosphere: 80% N_2, 20% CO_2

Handling Procedures

1. Sterilize the top of the Balch tube (see "A" below) with 70% ethanol and then flame the top.
2. If needed exchange the gas in the test tube for 80% N_2-20% CO_2. If necessary add the appropriate reducing agent (see "B, C, and D" below) to the medium.
3. When the Balch tube is ready to inoculate, Open vial according to enclosed instructions.
4. For inoculation, use an anaerobic (see "E" below) 1.0 ml syringe tipped with 22-gauge needle. Withdraw 0.5 ml 2635 broth with which to rehydrate the cell

pellet. Immediately upon the addition the 2635 broth to the cell pellet place the vial under a gentle stream of anaerobic gas. With the anaerobic syringe transfer the rehydrated cells back to the tube of 2635 broth. Transfer 0.5 ml the inoculated culture to additional broth tube(s) of 2635 broth. Plate 0.1 ml of the inoculated culture onto a non-selective medium and incubate aerobically at 30ºC. Use 0.1 ml of the inoculated culture to inoculate a nonselective aerobic broth and an additional tube of #2635 broth. Incubate the non-selective aerobic broth tubes at 30ºC. Incubate the anaerobic tube at 30ºC.

5. Growth should be detected in the #2635 broth within 3 to 5 days. There should be no growth detected on the aerobic plate or in the aerobic broth.

ANAEROBIC CONDITIONS:

A. Balch tubes (available from Bellco Glass, Vineland, NJ; are specially designed for anaerobic work and use an aluminum crimp cap to hold a rubber stopper in place. Needles can easily be inserted through the stopper, and the tubes can be pressurized to 2 atm. Alternatively, serum vials may be used, or screw cap tubes with butyl rubber stoppers, in the latter case the stopper may be removed and the tube placed under a cannula system that dispenses 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 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, titanium citrate and Co-enzyme M (see D).
D. We suggest adding the reducing agent to the medium at least one hour before the medium is to be inoculated. Co-enzyme M (mercaptoethanesulfonic acid) (100 X solution): *Dissolve 5.0 g in 100 ml of deionized water. Distribute into screw cap test tubes, 5-6 ml per tube and seal with rubber stoppers under N_2 gas. Autoclave to sterilize. Excess tubes can be stored at room temperature for up to 2 months. Co-enzyme M is a compound produced by many methanogens. Some methanogens are sensitive to stronger reducing agents such as sodium sulfide. Co-enzyme M is the standard reducing agent we use when working with methanogens.*
E. 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

Cells are Gram-negative motile rods.

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: *Geobacter pickeringii* (ATCC BAA-1140)

References

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

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