Desulfovibrio desulfuricans (Beijerinck) Kluyver and van Niel

BAA-1058™

Description

Genome sequenced strain
Strain designation: G20
Deposited As: *Desulfovibrio desulfuricans* (Beijerinck) Kluyver and van Niel
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.

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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 1249: Modified Baar's medium for sulfate reducers
Temperature: 30-38°C
Atmosphere: 80% N_2, 20% CO_2

Handling Procedures

1. Sterilize the top of the Balch tube by spraying it with 70% ethanol and then flame the top.
2. If needed, exchange the gas in the test tube for 100% N_2 or 95% N2-5% CO_2.
3. If there is any question about the redox potential (*see below*) of the medium, add 2.0 mL of reducing agent (1.5% sodium sulfide, stock solution) per 100 mL

of medium. Let the medium sit at room temperature for 10 to 20 minutes before inoculating.

4. When the Balch tube is ready to inoculate, open the vial according to enclosed instructions.
5. For inoculation, use a 1.0 mL syringed tipped with a 22 gauge needle. Make the syringe anaerobic (*see discussion below*) and withdraw 0.5 mL of ATCC Medium #1249 broth and use this to rehydrate the freeze-dried pellet using anaerobic techniques. Transfer the rehydrated cell suspension back to a tube of #1249 broth and incubate at 30°C to 38°C. Plate 0.1 mL of the inoculated culture onto a non-selective medium and incubate aerobically at 30°C. Inoculate a non-selective anaerobic and aerobic broth and incubate at 30°C.
6. Growth should be detected in the #1249 broth within 24 hours. There should be no growth detected on the aerobic plate. There should be no growth in the non-selective 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 from Bellco Glass (www.bellcoglass.com; stock no. 2048-00150).
b. Most strict anaerobes require this low redox potential for optimum growth. Adding a reducing agent to the medium will bring the redox potential to below -110 mv (*i.e.*, highly reduced).
c. To obtain a fully reduced medium, it is necessary that the medium be anoxic and that a reducing agent be added.
d. Common reducing agents are sodium sulfide, cysteine, dithiothreitol, and titanium citrate.
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

Growth should be detected within 24 to 48 hours, as indicated by turbidity throughout the broth.

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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: *Desulfovibrio desulfuricans* (Beijerinck) Kluyver and van Niel (ATCC BAA-1058)

References

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

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