Thermoanaerobacter pseudethanolicus

33223™

Description

Thermoanaerobacter pseudethanolicus strain 39E was isolated in 1978 from a microbial mat at Octopus Spring in Yellowstone National Park. This whole-genome sequenced anaerobic thermophile is known to produce ethanol from starch.

Strain designation: 39E
Deposited As: *Clostridium thermohydrosulfuricum* Klaushofer and Parkkinen
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 1118: Methanobacteria medium (ATCC medium 1045) with 0.2% yeast extract and 0.5% glucose
Temperature: 65°C
Atmosphere: Anaerobic

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 80% N_2 -20% CO_2.

3. When the Balch tube is ready to inoculate, open the vial. With a sterile anaerobic syringe tipped with a 22-gauge needle withdraw 0.5 ml of reduced #1118 medium and add it to the freeze dried pellet. Immediately place the vial under a gentle stream of oxygen free gas.
4. Using the same anaerobic syringe draw the rehydrated culture up and inoculate the same tube of #1118 broth. Plate 0.1 ml of the inoculated culture onto a non-selective medium and incubate aerobically at 37ºC. Use 0.1 ml of the inoculated culture to inoculate a non-selective aerobic broth and an additional tube of #1118 broth. Incubate the non-selective aerobic broth tubes at 37ºC. Incubate the #1118 broth culture at 65ºC.
5. Growth should be detected in the #1118 broth within 48 to 72 hours. There should be no growth detected on the aerobic plate or in the aerobic broth.

ANAEROBIC CONDITIONS:

1. 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.
2. 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

Gram negative curved rods of varying length which form chains and spores.

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: *Thermoanaerobacter pseudethanolicus* (ATCC 33223)

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 2025-03-31

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