Methanobacterium palustre Zellner et al.

BAA-1077™

Description

Strain designation: OCM 238 [DSM 3108, F]
Deposited As: *Methanobacterium palustre* Zellner et al.
Type strain: Yes

Storage Conditions

Product format: Frozen

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 2487: MS-OCM Base Medium with 43 mM NaCl and 5 mM sodium acetate

Handling Procedures

1. Sterilize the top of the Balch tube by spraying it with 70% ethanol and then flame the top. Exchange the head space with 80% H_2 20% CO_2.

3. When the Balch tube is ready to inoculate, thaw the frozen vial at room temperature under a gentle stream of oxygen-free gas.

4. For inoculation, use an anaerobic (see c below) 1.0 ml syringe tipped with 22-gauge needle, withdraw the cell suspension from the vial and transfer it to the primary broth. Plate 0.1 ml of the inoculated culture onto a non-selective medium and

incubate aerobically at 37ºC. Use 0.5 ml of the inoculated culture to inoculate an additional tube of #2487 broth. Incubate the non-selective aerobic broth tubes at 37 ºC. Incubate the anaerobic tube at 37ºC.

5. Growth should be detected in the #2487 broth within 5 to 7 days. Culture should be feed every 48 hours by replacing the gas in the head space with fresh 80%H_2 20% CO_2. There should be no growth detected on the aerobic plate or in the aerobic broth.

ANAEROBIC CONDITIONS:

a. 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.

b. 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.

c. 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

Notes

This organism is able to utilize formate as well as 80% H_2- 20% CO_2 as a substrate. If formate is used as the substrate, the gas mixture can be changed to as 80% N_2- 20% CO_2 or 100% N_2.

Additional information on this culture is available on the ATCC® web site at www.atcc.org.

At 1000x magnification, cells are long rods that occur singly, in pairs, and in clumps.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Methanobacterium palustre* Zellner et al. (ATCC BAA-1077)

References

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

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