Oxalobacter formigenes Allison et al.

35274™

Description

Oxalobacter formigenes strain OxB is a bacterial anaerobe that was isolated from a sheep rumen. This type strain is known to degrade oxalate.

Strain designation: OxB [CIP 106513]
Deposited As: *Oxalobacter formigenes* Allison et al.
Type strain: Yes

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 1352: Oxalate maintenance medium
Temperature: 37°C
Atmosphere: Anaerobic

Handling Procedures

1. To reduce media before inoculation, use 3% Cysteine HCl solution (0.2 mL per 10 mL). Growth is best achieved with the use of Hungate tubes.
2. Exchange the gas in the Hungate tube for an anaerobic mixture containing CO_2 . CO_2 is required for growth.
3. Under anaerobic conditions, preferably in an anaerobe chamber, rehydrate the

vial and then quickly transfer entire contents into a single Hungate tube of #1352 broth. A second tube of #1352 broth can also be inoculated with 0.5 mL from the original broth.

4. Incubate at 37°C. Initial growth may be observed at 48 hours. Suitable growth for transfer may take up to 2 to 3 days. Once growth is established, the culture should be transferred to fresh broth every 3-5 days.
5. Agar cultures may require inoculation from an established broth culture and a longer incubation period.
6. Growth may be evident by light turbidity in the broth; however, a wet mount is usually necessary to observe growth.

ANAEROBIC CONDITIONS:

1. Hungate (or Balch) tube refers to a special type of test tube that is designed to be pressurized and is suited for anaerobic work. The Hungate test tubes can be purchased form Bellco glass (www.bellcoglass.com; stock no. 204800150).
2. 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.
3. To obtain a fully reduced medium, it is necessary that the medium be anoxic and that a reducing agent be added. There are several common reducing agents, however, 3% Cysteine HCl solution is recommended for this strain. Add 0.2 mL of reducing agent for each 10 mL of medium.
4. Syringes can be made anaerobic by one of two methods.
    a. Displace the dead space in the syringe with a sterile oxygen-free gas.
    b. Displace the dead space in the syringe with a reducing agent.

Notes

For further information, reference Dawson KA, et al. Isolation and some characteristics of anaerobic oxalate-degrading bacteria from the rumen. Appl. Environ. Microbiol. 40: 833-839, 1980. PubMed: 7425628

Always use freshly prepared pre-reduced media or pre-reduced media that has been previously prepared but stored under anaerobic conditions. Resazurin in the media is a color indicator for anaerobic conditions. Observance of pink color in medium before

use or during incubation shows anaerobic conditions have not been met and oxidation has occurred. Medium should be discarded.

Growth on plates requires inoculation with a growing broth culture.

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: *Oxalobacter formigenes* Allison et al. (ATCC 35274)

References

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

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