Acidithiobacillus thiooxidans (Waksman and Joffe) Kelly and Wood

55019™

Description

Acidithiobacillus thiooxidans strain BNL-3-23 is an acidophilic bacterium with potential applications as a plant growth promoting strain.

Strain designation: BNL-3-23
Deposited As: *Thiobacillus thiooxidans* Waksman and Joffe
Type strain: No
Patent depository: This material was deposited with the ATCC Patent Depository to fulfill U.S. or international patent requirements. This material may not have been produced or characterized by ATCC. As an International Depository Authority (IDA) for patent deposits, ATCC is required to complete viability testing only at time of initial deposit of patent material. Patent deposits are made available on behalf of the Depositor when the pertinent U.S. or international patent is issued, but material may not be used to infringe the patent claims.
Patent number:
5,366,891
Technical information: ATCC Product Experience does not have technical information on patent deposits that are not produced or characterized by ATCC. Additional information can be found in the corresponding patent available from the patent holder or with the U.S. and/or international patent office.

Storage Conditions

Product format: Frozen
Storage conditions: -80°C or colder

Intended Use

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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

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Medium:

ATCC Medium 0125: Thiobacillus medium

ATCC Medium 260: Trypticase soy agar/broth with defibrinated sheep blood

Temperature: 26°C

Atmosphere: Aerobic

Handling Procedures

1. Open thawed vial.
2. Aseptically transfer the entire contents to a 5-6 mL tube of #125 broth. Transfer 0.5 mL of the culture to a second tube of #125 broth.
3. Use a single drop of the primary broth tube to inoculate a #260 plate for a purity check.
4. Slant the tubes and incubate all media at 26°C for 2 to 4 weeks. Growth is indicated by a light turbidity in the broth. The sulfur powder does not need to have settled at the bottom of the test tube.
5. Examine the culture by phase microscopy every few days until growth has occurred. Cells will be short rods, motile, and small in size.
6. To scale up, after growth has been obtained, inoculate multiple tubes of ATCC Medium #125. Slant the tubes and incubate at 26°C until growth is observed. This can take 2- 4 weeks.
7. Use a single drop of the culture to inoculate a #260 plate for a second purity check.
8. Once growth has been obtained, use 10-20 mL of the culture to inoculate 100 mL of #125 (in a 250 mL screw cap Erlenmeyer flask) and then place the flask at 26°C. Use several drops of the culture to inoculate a final #260 plate to confirm purity.
9. Let the flask incubate for 2 to 4 weeks. Growth is indicated when the sulfur settles to the bottom of the flask, or a light turbidity is observed.

Notes

There should be no growth on the purity plates.

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

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Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Acidithiobacillus thiooxidans* (Waksman and Joffe) Kelly and Wood (ATCC 55019)

References

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

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