# *Thermotoga neapolitana* Jannasch et al.

**49049™**

## Description

**Strain designation:** NS-E [DSM 4359]
**Deposited As:** *Thermotoga neapolitana* Jannasch et al.
**Type strain:** Yes

## Storage Conditions

**Product format:** Freeze-dried
**Storage conditions:** -80°C or colder

## 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 2507: Thermotoga Medium
**Temperature:** 77°C
**Atmosphere:** 100% $N_2$

## Handling Procedures

1. Sterilize the top of the Balch tube (see below) by spraying it with 70% ethanol and then flaming the top.
2. If needed, exchange the gas in the test tube for 100% $N_2$.
3. If the medium is pink (see discussion about resazurin) add 2.0 ml – 3.0 mL of reducing agent (1.5% sodium sulfide solution) per 100 ml of medium. Let the medium sit in the dark at room temperature for at least 24 to 48 hours, until

the resazurin becomes colorless, before inoculating.

4. After the Balch tube is ready to be inoculated, let the frozen vial thaw at room temperature under a gentle stream of 100% $N_2$.
5. Use an anaerobic 1.0 ml syringe (see below) tipped with 22-gauge needle and withdraw the entire contents from the vial. Transfer it to the broth and incubate 77°C. Plate 0.1 ml of the inoculated culture onto a non-selective medium and incubate aerobically at 37°C. Transfer 0.1 ml of the inoculated culture to a nonselective aerobic broth and incubate at 77°C.
6. Initial growth should be detected in the broth within 24 hours. For optimal growth, remove the culture from the 77C incubator and continue incubating in the dark at room temperature. Additional tubes of #2507 broth can be inoculated by transferring 0.5 mL of the primary broth to each additional tube using good anaerobic technique. Exchange the gas in the Balch tubes again after inoculation.
7. No growth should be detected on the aerobic plate or broth.

ANAEROBIC CONDITIONS:

a. Balch tubes refer to a special type of test tube that is designed to be pressurized and are suited for anaerobic work. The Balch tubes can be purchased form Bellco Glass (www.bellcoglass.com; stock no. 2048-00150).
b. 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.
c. 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.
d. 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

The cells are rods with a sheath or toga like structure that protrudes beyond the end of the cell.

Over pressurizing the culture by 1-2 atm. promotes growth.

Avoid using gases with hydrogen. Hydrogen has been reported to inhibit the growth of *Thermotoga*.

Growth can be detected with the increase of turbidity or microscopically at 1000X. After growth is achieved, remove the culture and place it at room temperature. If kept at high temperatures after growth, cell lysis will occur.

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: *Thermotoga neapolitana* Jannasch et al. (ATCC 49049)

## References

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

## Warranty

The product is provided 'AS IS' and the viability of ATCC® products is warranted for 30 days from the date of shipment, provided that the customer has stored and handled the product according to the information included on the product information sheet, website, and Certificate of Analysis. For living cultures, ATCC lists the media formulation and reagents that have been found to be effective for the product. While other unspecified media and reagents may also produce satisfactory results, a change in the ATCC and/or depositor-recommended protocols may affect the recovery, growth, and/or function of the product. If an alternative medium

formulation or reagent is used, the ATCC warranty for viability is no longer valid. Except as expressly set forth herein, no other warranties of any kind are provided, express or implied, including, but not limited to, any implied warranties of merchantability, fitness for a particular purpose, manufacture according to cGMP standards, typicality, safety, accuracy, and/or noninfringement.

## Disclaimers

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. Any proposed commercial use is prohibited without a license from ATCC.

While ATCC uses reasonable efforts to include accurate and up-to-date information on this product sheet, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate or complete and the customer bears the sole responsibility of confirming the accuracy and completeness of any such information.

This product is sent on the condition that the customer is responsible for and assumes all risk and responsibility in connection with the receipt, handling, storage, disposal, and use of the ATCC product including without limitation taking all appropriate safety and handling precautions to minimize health or environmental risk. As a condition of receiving the material, the customer agrees that any activity undertaken with the ATCC product and any progeny or modifications will be conducted in compliance with all applicable laws, regulations, and guidelines. This product is provided 'AS IS' with no representations or warranties whatsoever except as expressly set forth herein and in no event shall ATCC, its parents, subsidiaries, directors, officers, agents, employees, assigns, successors, and affiliates be liable for indirect, special, incidental, or consequential damages of any kind in connection with or arising out of the customer's use of the product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, ATCC is not liable for damages arising from the misidentification or misrepresentation of such materials.

Please see the material transfer agreement (MTA) for further details regarding the

use of this product. The MTA is available at www.atcc.org.

## Copyright and Trademark Information

© ATCC 2023. All rights reserved.
ATCC is a registered trademark of the American Type Culture Collection.

## Revision

This information on this document was last updated on 2021-05-19

## Contact Information

ATCC
10801 University Boulevard
Manassas, VA 20110-2209
USA
US telephone: 800-638-6597
Worldwide telephone: +1-703-365-2700
Email: tech@atcc.org or contact your local distributor