



# *Ulothrix gigas* (Vischer) Mattox and Bold

30443™

## Description

**Strain designation:** UTEX 174 [CCAP-386/3]

**Deposited As:** *Uronema gigas* Vischer

**Type strain:** No

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## Storage Conditions

**Product format:** Frozen

**Storage conditions:** -80°C or colder for 1 week, vapor phase of liquid nitrogen for long-term storage

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## 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.

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## 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.

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## **Certificate of Analysis**

For batch-specific test results, refer to the applicable certificate of analysis that can be found at [www.atcc.org](http://www.atcc.org).

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## **Growth Conditions**

### **Medium:**

ATCC Medium 847: Algal proteose agar

**Temperature:** 25°C

**Culture system:** Axenic

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## **Handling Procedures**

### **Storage and Culture Initiation**

Frozen ampules packed in dry ice should either be thawed immediately or stored in liquid nitrogen. If liquid nitrogen storage facilities are not available,

frozen ampules may be stored at or below -70°C for approximately one week.

**Do not under any circumstance store frozen ampules at refrigerator freezer temperatures (generally -20°C).** Storage of frozen material at this temperature will result in the death of the culture.

1. To thaw a frozen ampule, place in a 35°C water bath, until thawed (2-3 min). Immerse the ampule just sufficient to cover the frozen material. Do not agitate the ampule.
2. Immediately after thawing, aseptically transfer contents to a screw-capped borosilicate test tube containing ATCC Medium 847 broth. Incubate the tube on a 15° horizontal slant at 50-100  $\mu\text{Einsteins}/\text{m}^2/\text{s}$  irradiance at 25°C with the cap loosened one half turn. Maintain under a 14/10 h light-dark photoperiod.

**Culture maintenance:**

1. Inoculate a tube of fresh broth medium with 0.1 mL from a growing culture at or near peak density.
2. Incubate at 50-100  $\mu\text{Einsteins}/\text{m}^2/\text{s}$  irradiance at 25° C with the cap loosened one half turn. Maintain under a 14/10 h light-dark photoperiod.

**Cryopreservation:**

1. Harvest cells from a culture that is at or near peak density by centrifugation at 800 x g for 5 min.
2. Adjust the concentration of cells to  $2 \times 10^6$  -  $2 \times 10^7$ /mL in fresh broth medium.
3. While cells are centrifuging prepare a 14% (v/v) solution of sterile DMSO in fresh broth medium.
4. Mix the cell preparation and the 14% DMSO in equal portions. Thus, the final concentration will be  $10^6$  -  $10^7$  cells/mL and 7% (v/v) DMSO. The time from the mixing of the cell preparation and DMSO stock solution to the beginning of the freezing process should be no less than 5 min and no greater than 15 min.
5. Dispense in 0.5 mL aliquots into 1.0 - 2.0 mL sterile plastic screw-capped cryules (special plastic vials for cryopreservation).
6. Place the vials in a controlled rate freezing unit. From room temperature cool at -1°C/min to -40°C. If the freezing unit can compensate for the heat of fusion, maintain rate at -1°C/min through the heat of fusion. At -40°C plunge into liquid nitrogen. Alternatively, place the vials in a Nalgene 1°C freezing apparatus. Place the apparatus

- at -80°C for 1.5 to 2 hours and then plunge ampules into liquid nitrogen. (The cooling rate in this apparatus is approximately -1°C/min.)
7. The frozen preparations should be stored in either the vapor or liquid phase of a nitrogen refrigerator. Frozen preparations stored below -130°C are stable indefinitely. Those stored at temperatures above -130°C are progressively less stable as the storage temperature is elevated. Vials should not be stored above -55°C.
  8. To establish a culture from the frozen state place an ampule in a water bath set at 35°C. Immerse the vial just to a level just above the surface of the frozen material. Do not agitate the vial.
  9. Immediately after thawing, do not leave in the water bath, aseptically remove the contents of the ampule and inoculate a 16 x 125 mm screw-capped test tube containing 5 mL of ATCC medium 847 broth.
  10. Incubate the culture on a 15° horizontal slant at 25°C with the cap screwed on loosely (loosened one-half turn) and incubate under a 14 hour light (~50  $\mu$ Einsteins/m<sup>2</sup>/s irradiance)/10 hour dark cycle.
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## Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: *Ulothrix gigas* (Vischer) Mattox and Bold (ATCC 30443)

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## References

References and other information relating to this material are available at [www.atcc.org](http://www.atcc.org).

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