



Product Sheet

# *Trichoderma spirale* (ATCC® MYA-4918™)

Please read this **FIRST**

Storage Temp.  
**Frozen: -80°C or colder**  
**Freeze-Dried: 2°C to 8°C**  
**Live Culture: See Propagation Section**

Biosafety Level  
**1**

## Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

## Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Trichoderma spirale* (ATCC® MYA-4918™)

American Type Culture Collection  
PO Box 1549  
Manassas, VA 20108 USA  
[www.atcc.org](http://www.atcc.org)

800.638.6597 or 703.365.2700  
Fax: 703.365.2750  
Email: [Tech@atcc.org](mailto:Tech@atcc.org)

Or contact your local distributor

## Description

**Strain Designation:** TUB F-901

**Genotype:** Not available

**Product Description:** An ampoule containing viable cells (yeast cells, spores, or agar cubes with mycelia) suspended in cryoprotectant.

## Propagation

ATCC® Medium 28: Emmons' modification of Sabouraud's agar

ATCC® Medium 336: Potato dextrose agar (PDA)

## Growth Conditions

**Temperature:** 20°C to 25°C

**Atmosphere:** Typical aerobic

## Recommended Procedure

**Frozen ampoules** packed in dry ice should either be thawed immediately or stored in liquid nitrogen. If liquid nitrogen storage facilities are not available, frozen ampoules may be stored at or below -70°C for approximately one week. **Do not under any circumstance store frozen ampoules 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 ampoule, place in a **25°C to 30°C** water bath, until just thawed (**approximately 5 minutes**). Immerse the ampoule just sufficient to cover the frozen material. Do not agitate the ampoule.
2. Immediately after thawing, wipe down ampoule with 70% ethanol and aseptically transfer at least 50 µL (or 2 - 3 agar cubes) of the content onto a plate or broth with medium recommended.
3. Incubate the inoculum/strain at the temperature and conditions recommended.
4. Inspect for growth of the inoculum/strain regularly. The sign of viability is noticeable typically after 2 - 3 days of incubation. However, the time necessary for significant growth will vary from strain to strain.

**Colony and Cell Morphology:** On PDA medium at 25°C after 8 days, mycelium white with dark green tint, dense, cottony. Reverse tan to brown. Hyphae hyaline, guttulate. Conidiophores hyaline, branched. Phialides obclavate, single or in groups of 3-4, 12 x 3 µm. Conidia green, broadly ellipsoidal, smooth, 3.75-4.5 x 3 µm.

## Notes

No special notes.

Additional, updated information on this product may be available on the ATCC web site at [www.atcc.org](http://www.atcc.org).

## DNA Sequence

18S ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and 28S ribosomal RNA gene, partial sequence; GenBank number KC581162:

```
AGGGATCATTACCGAGTTTACAAC TCCCAAACCAATGTGAACGTTACCAA CTGTTGCCTCGGCGGG  
ATCTCTGCCCGGGTGC GTCGCAGCCCGGACCAAGGCGCCGCGGAGGACCAACCAAACTCTTTT  
GTATACCCCTCGCGGTTTTATATCTGAGCCATCTCGGCGCTCTCGTAGGCGTTTCGAAAATGAATC  
AAAAC TTTCAACAACGGATCTCTTGGTTCTGGCATCGATGAAGAACGCAGCGAAAATGCGATAAGTAAT  
GTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTCGCGCCCGCCAGTATTCTGGCGGG  
CATGCCTGTCCGAGCGTCATTTCAACCCCTCGAACCCCTCCGGGGGTCGGCGTTGGGGATCGGCCCTT  
ACGGGGCCGGCCCCGAAAATACAGTGGCGGTCTCGCCGACGCTCTCCTCGCGCAGTAGTTTGACACTC  
GCATCGGGAGCGCGCGCTCCATTGCCGTA AAAACACCCAAC TTTCTGAAATGTTGACCTCGGATCAG  
GTAGGAATACCCGCTGAACTTAA
```

D1D2 region of the 28S ribosomal RNA gene; GenBank number KC581160:

```
ATATCAATAAGCGGAGGAAAAGAAACCAACAGGGATTGCCCCAGTAACGGCGAGTGAAGCGGCAAC  
AGCTCAAATTTGAAATCTGGCCCTCGGGGTCGGAGTTGTAATTTGTAGAGGATGCTTTTGGTGAGGTG  
CCGCCGAGTTCCTTGGAAACGGGACGCCACAGAGGGTGAGAGCCCGTCTGGCTGGCCACCGGACCT  
CTGTAAAGCTCCTTCGACGAGTCGAGTAGTTTGGGAATGCTGCTCAAATGGGAGGTATATGTCTTCTA  
AAGCTAAATATTGGCCAGAGACCGATAGCGCACAAAGTAGAGTGATCGAAAGATGAAAAGCACCTTG  
AAAAGAGGGTTAAATAGTACGTGAAATTTGTTGAAAGGGAAGCGCTTGTGACCAGACTTGGGCGCGGC  
GGATCATCCGGGTTCTCTCCGGTGCAC TTCGCCGCTTAGGCCAGCATCAGTTCTGTCGGGGGAA
```



Product Sheet

# *Trichoderma spirale* (ATCC® MYA-4918™)

Please read this **FIRST**



Storage Temp.  
**Frozen: -80°C or colder**  
**Freeze-Dried: 2°C to 8°C**  
**Live Culture: See Propagation Section**

---



Biosafety Level  
**1**

## Intended Use

This product is intended for research use only. It is not intended for any animal or human therapeutic or diagnostic use.

## Citation of Strain

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Trichoderma spirale* (ATCC® MYA-4918™)

AAAGGTTTCGGGAACGTGGCTCCTCCGGGAGTGTTATAGCCCGTTGCATAATACCCTGCGGTGGACTG  
AGGACC GCGCATCTGCAAGGATGCTGGCGTAATGGTACCAGCGA

## Isolation

Park soil; Singapore.

## References

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

## Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the current publication of the *Biosafety in Microbiological and Biomedical Laboratories* from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention and National Institutes for Health.

## ATCC Warranty

ATCC® products are warranted for 30 days from the date of shipment, and this warranty is valid only if the product is stored and handled according to the information included on this product information sheet. If the ATCC® product is a living cell or microorganism, ATCC lists the media formulation that has been found to be effective for this product. While other, unspecified media may also produce satisfactory results, a change in media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this product. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

## Disclaimers

This product is intended for laboratory research purposes only. It is not intended for use in humans. 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.

This product is sent with the condition that you are responsible for its safe storage, handling, and use. ATCC is not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to insure 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 enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at [www.atcc.org](http://www.atcc.org)

Additional information on this culture is available on the ATCC web site at [www.atcc.org](http://www.atcc.org).

© ATCC 2013. All rights reserved. ATCC is a registered trademark of the American Type Culture Collection. [08/02]

American Type Culture Collection  
PO Box 1549  
Manassas, VA 20108 USA  
[www.atcc.org](http://www.atcc.org)

800.638.6597 or 703.365.2700  
Fax: 703.365.2750  
Email: [Tech@atcc.org](mailto:Tech@atcc.org)

Or contact your local distributor