



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**

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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 TCCCAACCCAATGTGAACGTTACCAA CTGTTGCCTCGGCGGG  
ATCTCTGCCCGGGTGC GTCGCAGCCCGGACCAAGGCGCCGCGGAGGACCAACCAAACTCTTTT  
GTATACCCCTCGCGGTTTTATATCTGAGCCATCTCGGCGCCTCTCGTAGGCGTTTCGAAAATGAATC  
AAAAC TTTCAACAACGGATCTCTTGGTCTGGCATCGATGAAGAACGCAGCGAAAATGCGATAAGTAAT  
GTGAATTGCAGAATTCAGTGAATCATCGAATCTTTGAACGCACATTGCGCCCGCCAGTATTCTGGCGGG  
CATGCCTGTCCGAGCGTCATTTCAACCCCTCGAACCCCTCCGGGGGTCGGCGTTGGGGATCGGCCCTT  
ACGGGGCCGGCCCCGAAAATACAGTGGCGGTCTCGCCGAGCCTCTCCTCGCGCAGTAGTTTGACACTC  
GCATCGGGAGCGCGCGTCCATTGCCGTA AAAACACCCAAC TTTCTGAAATGTTGACCTCGGATCAG  
GTAGGAATACCCGCTGAACTTAA
```

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

```
ATATCAATAAGCGGAGGAAAAGAAACCAACAGGGATTGCCCCAGTAACGGCGAGTGAAGCGGCAAC  
AGCTCAAATTTGAAATCTGGCCCTCGGGGTCGGAGTTGTAATTTGTAGAGGATGCTTTTGGTGAGGTG  
CCGCCGAGTTCCCTGGAACGGGACGCCACAGAGGGTGAGAGCCCGTCTGGCTGGCCACCGGACCT  
CTGTAAAGCTCCTTCGACGAGTCGAGTAGTTTGGGAATGCTGCTCAAATGGGAGGTATATGTCTTCTA  
AAGCTAAATATTGGCCAGAGACCGATAGCGCACAAAGTAGAGTGATCGAAAGATGAAAAGCACCTTG  
AAAAGAGGGTTAAATAGTACGTGAAATTTGTTGAAAGGGAAGCGCTTGTGACCAGACTTGGGCGCGGC  
GGATCATCCGGGTTCTCTCCGGTGCAC TCGCCGCTTAGGCCAGCATCAGTTCTGCGGGGGAA
```



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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.

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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).

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