



Product Sheet

# Phytophthora hydrogena (ATCC® MYA-4919™)

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: *Phytophthora hydrogena* (ATCC® MYA-4919™)

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:** 46A3

**Genotype:** Not available

**Product Description:** An ampoule containing mycelia-medium cubes suspended in cryoprotectant.

## Propagation

The information recommended in this section is to assist users in obtaining living culture(s) for their studies. The recommendation does not imply that the conditions or procedures provided below are optimum. Experienced researchers may initiate the growth of a culture in their own way.

ATCC® Medium 343: V8 juice agar

ATCC® Medium 1970: V8 rye agar

ATCC® Medium 321: Lima bean agar

## Growth Conditions

**Temperature:** 20°C to 22°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 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 4 - 5 days of incubation. However, the time necessary for significant growth will vary from strain to strain.

**Colony and Cell Morphology:** Colonies on V8 juice agar at 20°C after 3-4 days are floccose, white and slightly dense. Oogonia present. Intercalary hyphal swelling of sporangiospore present.

## 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.  
GTTTCGGTAGGTGAACCTGCGGAAGGATCATTACCACACCTAAAAACTTCCACGTGAAGTGTCTGTGA  
TGTTGGGGGCTGCCCTTGGTGGTGGCTCCATCAAACGAGGCCCTGGGCTGCAAAGTCGAGGGTAGTAG  
TTACTTGTGTAAACCCCTTTGTAATTTTCTGATCATACTGTGGGGACGAAAGTCTCTGCTTTAACTAG  
ATAGCAACTTTCAGCAGTGGATGTCTAGGCTCGCACATCGATGAAGAACGCTGCGAACTGCGATACGT  
AATGCGAATTGCAGGATTCAGTGAGTCATCGAAATTTGAACGCATATTGCACTTCCGGGTTATGCCTG  
GGAGTATGCCTGTATCAGTGTCCGTACATCAACCTTGGCTTCCTTCCGTGTAGTCGGTGGCGGGAA  
CGCGCAGACGTGAAGTGTCTTGGCTGGCGGTGAGTCCGCGGAGTCCCTTTGAAATGTAAGATACTGTTCTT  
CTCTTGTGCGAAAAGCGTGCGTTGTGTGGTTGTGGAGGCTGCCGTTGTGGCCAGTCGCGCACTGATTT  
CGTGCTGAGGCGTGTGGGGAGGAGCTCGATTCCGGTATGTTGGCTTCGGCTGAACCTTCTGCTTATGG  
GGCTGTTTTCTGCTGTTCCGGCTTCCGGGGTCCGGTGAACCGTAGTCATGGTGGCTTGGCTTTGAACC  
GCGCGGCTGTTGCGCGAAGTATGGTGCCTCCGCGGAGAGGACGACCTATTTGGGACGATTGTGCGGG  
TTCGTGCTGCATCTCAATTGGACCTGATATCAGGCAAGATTACCCGCTGAACCTAAG

Large subunit ribosomal RNA gene, partial sequence.

CATATCAATAAGCGGAGGAAAAGAACTAACAAGGATCCCTAGTAACGCGAGTGAAGCGGGAA  
GAGCTCAAGCTTAAATCTCTGCGCAAGTTTTGCGCGGCGAATTGTAGTCTATGAGGCGTGGTCAGC  
GCGGGCGCTCGGGTAAGTTCCTTGAAGAGGACAGCATGGAGGGTGATACTCCGTTTCATCCCTGGG



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CCGCTTGC GCGTACGACCCGTGTTCTTCGAGTCGCGTTGTTGGGAATGCAGCGCAAAGTAGGTGGTAA  
ATTCATCTAAAGCTAAATATTGGTGCGAGACCGATAGCGAACAGTACC GTGAGGAAAGATGAAA  
AGA ACTTTGAAAAGAGAGTAAAGAGTACCTGAAACTGCTGAAAGGGAACCGAATCGTTTCCAGTGT  
CTATAATCCGCGGCATATTTTCATCGTGGAGTGTGTGCGTGTGCGTTCGCGAGTGGCTTTTTGGCTG  
CGCGGCGCGTGTGCTGTGCGTGCCTTGGTGGTCCCTGTGCTGCGGTGGGACGTCAAGGTCAGTTCGT  
GTGCTGCGGGAATGGCTGCCGAGGAGGTAGGGCTTACGCTCCGCGTTTGTCTGTTATATCTTGGTGGAA  
CGAGTCGTCGTGGTTGGACTGAGGTGCCTACAACGTGCTTTTGTGAGTGTGTGTCTCTGTGTGCCCG  
GTGTGCGGATAGCTTGCTATGCGTGTGCTGTCGTGCGCGGATGGGGCGTGTGTAACCTTGTGCCGTT  
CGGGACGTTGACGAAATGGAGCGATCCGAC

## Isolation

Reservoir water; Virginia, USA.

## 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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## Disclaimers

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