



Product Sheet

Phytophthora borealis (ATCC® MYA-4881™)

Please read this **FIRST**



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 borealis* (ATCC® MYA-4881™)

American Type Culture Collection
PO Box 1549
Manassas, VA 20108 USA
www.atcc.org

800.638.6597 or 703.365.2700
Fax: 703.365.2750
Email: Tech@atcc.org

Or contact your local distributor

Description

Strain Designation: AKWA58.1-0708 [CBS 132023]

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

ATCC® Medium 2232: YM medium with biotin 30 mcg/L and thiamine 600 mcg/L

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 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 3-4 days of incubation. However, the time necessary for significant growth will vary from strain to strain.

Colony and Cell Morphology: After 5 days on V8 juice medium at 20°C colonies are angular and petaloid with hyphae appressed. After 3 weeks sporangia are persistent. Sporangia ovoid or obpyriform. Oogonia absent.

Notes

Type strain of the species; plant pathogen; this strain may require a primary growth period in a nutrient broth containing trace amount of biotin and thiamine (ATCC medium 2232) before it will grow on any subculture attempts.

No special notes

Additional, updated information on this product may be available on the ATCC web site at www.atcc.org.

DNA Sequence

GenBank accession number: JQ745261

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. TCCGTAGGTGAACCTGCGGAAGGATCATTACCACACCTAAAAAATTTCCACGTGAACCGTATCAACC CCTTAAATTTGGGGCTTGCTCGCGCGCTGCGTGGCTGTAATGGGTCGCGCTGYTGCTGCTGGG CGGGCTATCATGGGCGAGCGTTTGGGCTTCGGCTCGAGCTAGTAGCTATCAATTTTAAACCCCTTCT AAATACTGAACATACTGTGGGACGAAAGTCTCTGCTTTTAACTAGATAGCAACTTTCAGCAGTGGAT GTCTAGGCTCGCACATCGATGAAGAACGCTGCGAACTGCGATACGTAATGCGAATGCAGGATTCACT GAGTCATCGAAATTTTGAACGCATATTCACCTCCGGTTAGTCTGGGAGTATGCCTGTATCAGTGTG CCGTACATCAACCTTGGTTTTCTCCTCCGTGTAGTCCGGTGGAGGATATGCCAGACGTGAAGTGTCTTGC TGGCGGTCTTTCGAGTCTGCCGGTGAAGTCTTTGAAATGTAAGTGAAGTGAAGTGAAGTGAAGTGAAGT GCGTGGCGTGTGCTGTTGTGGAGGCTGCCCGTGTGGCCAGTCCGGCAGTCCGGTGTGTTGTTASCTGTGGCGTT TAATGGAGGAGTGTTYGATTCCGGTATGGTTGGCTTCGGCTGAACAATCTGCTTATGGGTGCTTTTCC TGTCATTGGCGGTACGAACCTGGTGAACCGTAGCTGTGTGGTGTGGCTTTTGAACCGGCTTTGCTTTGC GAAGTAGGGTGGCGGCTTCGGCTGTGAGGGGTCGATCCATTTTGGGAACTTTGTGTGTGCGGCTTCC TGCTGCGCGCATCTCAATTGGACCTGATATCAGGCAAGATTACCCGCTGAACCTAAG



Product Sheet

Phytophthora borealis (ATCC® MYA-4881™)

Please read this **FIRST**



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 borealis* (ATCC® MYA-4881™)

American Type Culture Collection
PO Box 1549
Manassas, VA 20108 USA
www.atcc.org

800.638.6597 or 703.365.2700
Fax: 703.365.2750
Email: Tech@atcc.org

Or contact your local distributor

GenBank accession number: JQ745268

Large subunit ribosomal RNA gene, partial sequence.

```
CATATCAATAAGCGGAGGAAAAGAACTAACAAGGATCCCCTAGTAACGGCGAGTGAAGCGGGAA  
GAGCTCAAGCTTAAATCTCCGTGCAAGTTTTGCGCGGCGAATTGTAGTCTATAGAGGCGTGGTCAGC  
GTGGGCGCTTGGGGCAAGTTCCTTGAAGAGGACAGCATGGAGGGTGATACTCCCGTTCATCCCTGAG  
TGGCTCGTGCGTACGACCCGTGTTCTTTGAGTCGCGTTGTTTGGGAATGCAGCGCAAAGTAGGTGGTAA  
ATTCATCTAAAGCTAAATATTGGTGCGAGACCGATAGCGAACAGTACCGTGAGGGAAAGATGAAA  
AGAAGTTTAAAAGAGAGTTAAAGAGTACCTGAAACTGCTGAAAGGGAACCGAATCGTTTCCAGTGT  
CTATAATCCGTGGCATATTTTCATTGGCGAGTGTGTGCCGCGTGCGCTGTGCCAGCGGCTTTTTGGCTG  
CGCTCGGTGCGTGTGTGTGTGCTTGTGCTGCGCTGTGCTGCGGTGGGACGTC AAGGTCAGTTCGT  
ATGCTGCGGAAATGGCTGCCGAGGAGGTAGGGCTTACGCTCTGCGTTTGTCTATTATATCTTGGTGGGA  
CGAGTCGTCGCGGTTGGGACTGAGGTGCCTACAACGTGCTTTTGTGAGTGGGTGTGTGTCTCCGTGTGCGC  
CGTGTGCGGATAGCTTGTATGCGTGTGTGGTTGTGTGGATTGATGCGTGCCTAACTTGTGCGCGCTT  
CGGGACGTTGACGAAATGGAGCGATCCGAC
```



Forest streams, Bear Creek, Alaska, USA



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



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

Additional information on this culture is available on the ATCC web site at www.atcc.org.
© ATCC 2013. All rights reserved. ATCC is a registered trademark of the American Type Culture Collection. [02/06]