



Product Sheet

# *Ustilago maydis* (ATCC® MYA-4924™)

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: *Ustilago maydis* (ATCC® MYA-4924™)

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:** FGSC 9021 [UM521, DSMZ 14603]

**Deposited Name:** *Ustilago maydis*

**Product Description:** An ampoule containing viable cells (yeast cells, spores, or agar cubes with mycelia) 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 200: YM agar or YM broth

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 50 µL (or any amount desired up to all) 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:** Colonies on YM agar at 25°C after 5 days are dimorphic with center flat, finely pruinose, locally smooth and shiny. Later zonate toward margins, radially fibrillar with outermost margin fringed. Yeast cells are fusiform variable in size and have polar budding.

## Notes

Mating type a1b1

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  
TTTTTTTTCTGAGGTGTGGCTCGCACCTGTCCAACCTAACCTGAGCTACCTTTTTATATAACACGGTTGC  
ATCGGTGCGTCTGTGAAACCACTAGCGCTCATAGCGAGCAGCGTCTGGGGAAAGACGGGTCGGCGC  
TTCTTACCAACACTTTTGAACACTAGGATTGGAAGGACAAAAATCATTTTTTGTATGGAAGCGACT  
GGTAATGCGGTGCTTAAATTGAAAAACAACCTTTGGCAACGGATCTCTGGTCTCCCATCGATGAA  
GAACGCAGCGAATTGCGATAAGTAATGTGAATTGCAGAAGTGAATCATCGAATCTTTGAACGCACCTT  
GCGCTCCCGCAGATTTAATCTGGGGAGCATGCCTGTTGAGGGCCGGAATTGTTTGAACGACAGC  
TTTTTTTTCTGTTGAGAAAGACTGGCGGATCGGTAGTGAGGGTCTCTGCCATTTACCGTGGCTCCCTC  
GAAATGCATTAGCGCATCCATTGGAAGGCGGAAAGACGGACGAAAGCTCGAGTTTTTTGCCCTCGCT  
TCCCTGCCGGTTTTGATAATGTCAAGACTTCGGAGGCGAAGAGAGGGCGGGAGCTGGACGCAACGA  
CTTTTCTGCTGTTTGGCGTGCTTCTGAACCCCGCCATGCCTCTGCTTTAACACAGAGG

D1D2 region of the 28S ribosomal RNA gene  
CATATCAATAAGCGGAGGAAAAGAACTAACAAAGGATTCCTTAGTAACGGCGAGTGAAGAGGGAA  
GAGCCCAAGATTGAAAGCTGGCGTCTTCGGCGTCCGCAATTGTAATCTCAAGAAGTGTTCCTCGCTTCGG  
ACCATGCCTAAGTCCCTTGGAAAAGGCATCATAGAGGGTGAATCCCGTACATGGCATGGAGCGC



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CCGTAGCTTTGTGATACGCTTTCTAAGAGTCGAGTTGTTGGGAATGCAGCTCAAATGGGTGGTAAAT  
GCCATCTAAGGCTAAATATTGGGGAGAGACCGATAGCGAACAAGTACAGTGATGGAAAGATGAAAA  
GAACTTTGGAAAGAGAGTTAAACAGTACGTGAAATTGCCAAAAGGGAAGGGTAGGAGGTCAGAGAT  
GCGTCTTGGGATTCAGCCTTGCTTTTGCCCTGGTGTTCCTCCCAAGCTGCAGGCCAACGTCGGTTTTGGGC  
ACTGGAGAAGGGTAGGAGGAACGTGGCACCTCTCGGGGTGTGTTATAGCCTCCTACTGGATACAGCG  
ACCGAGACCGAGGAACGCAGCGTACTCGTAAGAGCGGGCCTTTTGGCACCTTTACGCTTAGGGCGTTG  
GCATAATGGCCCTCTACCAC



*Zea mays*, United Kingdom.



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

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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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