Product Sheet

**Metarhizium brunneum**

**(ATCC® 90448™)**

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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

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**Intended Use**

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

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**Citation of Strain**

If use of this culture results in a scientific publication, it should be cited in that manuscript in the following manner: *Metarhizium brunneum* (ATCC® 90448™)

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**Description**

**Strain Designation:** M.a. 43 [HRI 275.86]

**Deposited Name:** Metarhizium anisopliae (Metschnikoff) Sorokin var. anisopliae

**Product Description:** An ampoule containing viable cells (may include spores and mycelia) suspended in cryoprotectant.

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**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 323:** Malt agar medium

**ATCC® Medium 325:** Malt agar extract agar (Blakeslee’s formula)

**ATCC® Medium 336:** Potato dextrose agar (PDA)

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**Growth Conditions**

**Temperature:** 24°C to 26°C

**Atmosphere:** Typical aerobic

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**Recommended Procedure**

For freeze-dry (lyophilized) ampoules:

1. Open an ampoule according to enclosed instructions.

2. From a single test tube of sterile distilled water (5 to 6 mL), withdraw approximately 0.5 to 1.0 mL with a sterile pipette and apply directly to the pellet. Stir to form a suspension.

3. Aseptically transfer the suspension back into the test tube of sterile distilled water.

4. Let the test tube sit at room temperature (25°C) undisturbed for at least 2 hours; longer (e.g., overnight) rehydration might increase viability of some fungi.

5. Mix the suspension well. Use several drops (or make dilutions if desired) to inoculate recommended solid or liquid medium. Include a control that receives no inoculum.

6. Incubate the inoculum at the propagation conditions recommended.

7. Inspect for growth of the inoculum/strain regularly. The sign of viability is noticeable typically after 6–10 days of incubation. However, the time necessary for significant growth will vary from strain to strain.

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**Colonization and Cell Morphology**

On Blakeslee’s malt extract medium at 25°C after 15 days, two mycelial types were observed. White mycelium, cottony to floccose, dense. Yellowish tan mycelium velutinous to powdery.

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**DNA Sequence**

18S and internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, partial sequence; and 28S ribosomal RNA gene, partial sequence.

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**Notes**

Additional information on this culture is available on the ATCC® web site at www.atcc.org.
**Metarhizium brunneum**  
(*ATCC® 90448™*)

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**Isolation**

Codling moth larvae, *Cydia pomonella*, Austria

**References**

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

**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**

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