

***Mucor circinelloides* forma *circinelloides*,
Strain Mucho****Catalog No. NR-49117****For research use only. Not for human use.****Contributor:**

Joseph Heitman, Professor, Molecular Genetics and Microbiology Department, Duke University, Durham, North Carolina, USA

Manufacturer:

BEI Resources

Product Description:

Classification: Mucoraceae, *Mucor*

Species: *Mucor circinelloides* forma *circinelloides*

Strain: Mucho

Original Source: *Mucor circinelloides* f. *circinelloides* (*M. circinelloides* f. *circinelloides*), strain Mucho, was isolated in Texas, USA, from yogurt during an outbreak of gastrointestinal illness in 2013.¹

Comments: *M. circinelloides* f. *circinelloides*, strain Mucho is virulent in murine and insect host models (larval *Galleria mellonella*). Mating assays have shown that this strain is a positive mating type strain. It forms sexual zygospores with the (-) *M. circinelloides* f. *circinelloides* tester strain (NRRL3614), but not with a (+) *M. circinelloides* f. *circinelloides* strain (NRRL3615).²

M. circinelloides f. *circinelloides* can be a food-borne pathogen. *M. circinelloides* f. *circinelloides* is the most virulent subspecies of *M. circinelloides* and is commonly implicated in human disease. Due to the increase in the number of immunosuppressed individuals the mortality rate from gastrointestinal mucormycosis has risen as high as 85%.² Fungal food-borne pathogens, like *M. circinelloides*, are becoming a serious public health concern, causing severe and often fatal infections in immunocompromised hosts.¹

Material Provided:

Each vial of NR-49117 contains approximately 0.5 mL of *M. circinelloides* f. *circinelloides* spores and mycelia in Yeast Mold broth with 20% glycerol.

Packaging/Storage:

NR-49117 was packaged aseptically in cryovials and is provided frozen on dry ice. The product should be stored at -60°C or colder. For long term storage, cryogenic temperature (-130°C or colder), preferably in the vapor phase of a liquid nitrogen freezer, is recommended.

Growth Conditions:

Media:

Yeast Mold broth or Nutrient broth or equivalent

Yeast Mold agar or Potato dextrose agar or Nutrient agar or equivalent

Incubation:

Temperature: 25°C to 30°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; thaw rapidly in a water bath at 25°C to 30°C.
2. Immediately after thawing, inoculate an agar plate with approximately 40 µL of thawed culture or transfer the entire thawed aliquot into a single tube of broth.
3. Incubate the plate or tube at 25°C for 2 to 7 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Mucor circinelloides* forma *circinelloides*, Strain Mucho, NR-49117."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories, 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Heitman, J., Personal Communication.
2. Lee, S. C., et al. "Analysis of a Food-Borne Fungal Pathogen Outbreak: Virulence and Genome of a *Mucor circinelloides* Isolate from Yogurt." *Mbio* 5 (2014): 01390-14. Pubmed: 25006230.

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