

Cryptococcus neoformans*, Strain NIH398*Catalog No. NR-50333****For research use only. Not for human use.****Contributor:**

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Manufacturer:

BEI Resources

Product Description:

Classification: *Filobasidiaceae*, *Cryptococcus*

Species: *Cryptococcus neoformans*

Strain: NIH398 (Note: The label incorrectly refers to NR-50333 as strain NIH-398 14508722. The correct strain name for NR-50333 is NIH398.)

Serotype: A (var. *grubii*)²

Original Source: *Cryptococcus neoformans* (*C. neoformans*), strain NIH398 was isolated in Baltimore, Maryland in 1970 from human cerebrospinal fluid.¹⁻³

Comments: *C. neoformans*, strain NIH398 was deposited as susceptible to fluconazole and with a high level of heteroresistance to fluconazole (LHF) developing.²

There are currently two species, *C. neoformans* and *C. gattii*, in the *Cryptococcus* species complex. These species are best recognized as the agents of cryptococcosis, an AIDS-defining illness. *C. neoformans* has been widely associated with avian excreta.⁴ *C. neoformans* is divided into two varieties, *C. neoformans* var. *grubii* (serotype A) and *C. neoformans* var. *neoformans* (serotype D).⁴ In the current classification scheme, there are five distinct lineages recognized, named VNI, VNII, VNB, VNIII and VNIV.⁴ The two varieties (*neoformans* and *grubii*) are able to recombine and produce diploid or aneuploid intervarietal AD hybrids.⁴

Material Provided:

Each vial contains approximately 0.5 mL of *C. neoformans* in 20% glycerol.

Packaging/Storage:

NR-50333 was packaged aseptically in cryovials and is provided frozen on dry ice. The product should be stored at cryogenic temperature (-130°C or colder), preferably in the vapor phase of a liquid nitrogen freezer. If liquid nitrogen storage facilities are not available, frozen cryovials may be stored at -70°C or colder for approximately one week.

Growth Conditions:Media:

Yeast Mold broth or equivalent

Yeast Mold 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 waterbath at 25°C to 30°C. Typically, this takes less than 5 minutes.
2. Immediately after thawing, inoculate an agar plate with approximately 40 µL of thawed culture and/or transfer the entire thawed aliquot into a single tube of broth.
3. Incubate the plate and/or tube at 25°C to 30°C for 2 to 4 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Cryptococcus neoformans*, Strain NIH398, NR-50333."

Biosafety Level: 2

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. Kwon-Chung, K. J., Personal Communication.
2. Sionov, E., Y. C. Chang and K. J. Kwon-Chung. "Azole Heteroresistance in *Cryptococcus neoformans*: Emergence of Resistant Clones with Chromosomal Disomy in the Mouse Brain during Fluconazole Treatment." Antimicrob. Agents and Chemother. 57 (2013): 5127-5130. PubMed: 23836187.
3. Sionov, E., et al. "Heteroresistance to Fluconazole in *Cryptococcus neoformans* is Intrinsic and Associated with Virulence." Antimicrob. Agents Chemother. 53 (2009): 2804-2815. PubMed: 19414582.
4. Cogliati, M. "Global Molecular Epidemiology of *Cryptococcus neoformans* and *Cryptococcus gattii*: An Atlas of the Molecular Types." Scientifica 2013; 2013.675213. PubMed: 24278784.

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