

***Cryptococcus gattii*, Strain MIC64-C1**

Catalog No. NR-50421

For research use only. Not for human use.

Contributor:

Brian Wong, M.D., Professor, and Igor Bruzual, Ph.D., Infectious Disease Division, Department of Medicine, Oregon Health and Science University, Portland, Oregon, USA

Manufacturer:

BEI Resources

Product Description:

Classification: *Tremellaceae, Cryptococcus*

Species: *Cryptococcus gattii*

Strain: MIC64-C1

Original Source: *Cryptococcus gattii* (*C. gattii*), strain MIC64-C1 was isolated from human lung biopsy tissue in the Pacific Northwest region of North America.¹

Comments: *C. gattii*, strain MIC64-C1 was deposited as lineage VGIIb and resistant to azoles.¹

The *Cryptococcus* species complex is comprised of four distinct lineages, VGI to VGIV, which are currently classified as two species, *C. neoformans* and *C. gattii*. These species are best recognized as the agents of cryptococcosis, an AIDS-defining illness.^{2,3}

C. gattii are characterized serologically as serotypes B and C, and clinical isolates are relatively rare.³ Although cryptococcosis was historically considered to be a tropical and subtropical illness, in the late 1990s, cryptococcal disease in healthy people, domestic pets and wildlife caused by *C. gattii* appeared on Vancouver Island, British Columbia and it subsequently spread to the mainland and into the northwest United States.²⁻⁴ *C. gattii* strains from the Pacific Northwest are more likely to exhibit azole drug resistance than non-Pacific Northwest *C. gattii* strains or *C. neoformans*.^{5,6}

Material Provided:

Each vial contains approximately 0.5 mL of culture in 20% glycerol.

Packaging/Storage:

NR-50421 was packaged aseptically in cryovials and is provided frozen on dry ice. The product should be stored at -80°C or colder.

Growth Conditions:

Media:

Yeast Mold broth or Modified Sabouraud Dextrose broth or equivalent

Yeast Mold agar or Modified Sabouraud Dextrose agar or equivalent

Incubation:

Temperature: 25°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; thaw rapidly.
2. Inoculate an agar plate with approximately 50 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 for 2 to 4 days.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Cryptococcus gattii*, Strain MIC64-C1, NR-50421."

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants 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, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or

its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

References:

1. Wong, B. and I. Bruzual, Personal Communication.
2. Zhu, P., et al. "Congenic Strains for Genetic Analysis of Virulence Traits in *Cryptococcus gattii*." *Infect. Immun.* 81 (2013): 2616-2625. PubMed: 23670558.
3. Diaz, M. R. and J. W. Fell. "Use of a Suspension Array for Rapid Identification of the Varieties and Genotypes of *Cryptococcus neoformans* Species Complex." *J. Clin. Microbiol.* 43 (2005): 3662-3672. PubMed: 16081894.
4. Kidd, S. E., et al. "A Rare Genotype of *Cryptococcus gattii* Caused the Cryptococcosis Outbreak on Vancouver Island (British Columbia, Canada)." *Proc. Natl. Acad. Sci. USA* 101 (2004): 17258-17263. PubMed: 15572442.
5. Gast, C. E., et al. "Azole Resistance in *Cryptococcus gattii* from the Pacific Northwest: Investigation of the Role of *ERG11*." *Antimicrob. Agents Chemother.* 57 (2013): 5478-5485. PubMed: 23979758.
6. Basso, L. R., Jr., et al. "Identification and Properties of Plasma Membrane Azole Efflux Pumps from the Pathogenic Fungi *Cryptococcus gattii* and *Cryptococcus neoformans*." *J. Antimicrob. Chemother.* 70 (2015): 1396-1407. PubMed: 25630649.

ATCC® is a trademark of the American Type Culture Collection.

