

***Candida albicans*, Strain 12C**

**Catalog No. NR-29444**

**For research use only. Not for human use.**

**Contributor:**

David R. Soll, Professor, The University of Iowa Research Foundation, The University of Iowa, Iowa, USA

**Manufacturer:**

BEI Resources

**Product Description:**

Classification: Mitosporic *Saccharomycetales*; *Candida*

Species: *Candida albicans*

Strain/Isolate: 12C

Original Source: *Candida albicans* (*C. albicans*), strain 12C is an oral isolate from a vaginitis patient collected in Ann Arbor, Michigan, USA between 1990 and 1992.<sup>1,2</sup>

Comment: Strain 12C is a member of genetic clade I and has an *ala* MTL genotype.<sup>2</sup>

*C. albicans* is a eukaryotic, pathogenic obligate aerobe that is responsible for the majority of forms of candidiasis and is responsible for superficial as well as life-threatening systemic infections. It is commonly isolated from the environment and can be a component of the microbial floras of the human oral cavity, gastrointestinal tract or vagina. Several features of *C. albicans* contribute to its virulence. These include the secretion of hydrolytic enzymes, the ability to adhere to host cells and tissues, phenotypic switching (a phenomena that involves changing several growth and morphological characteristics at the same time) and morphological dimorphism (growth can be yeast-like or mycelial). *C. albicans* is generally diploid and exhibits considerable natural heterozygosity.<sup>3-5</sup> The whole genome sequence of the diploid form of *C. albicans*, strain SC5314 has been completed (GenBank: [AACQ00000000](#); [CandidaDB](#)).<sup>6,7</sup>

**Material Provided:**

Each vial of NR-29444 contains approximately 0.5 mL of yeast culture in Yeast Mold broth containing 20% glycerol.

**Packaging/Storage:**

NR-29444 was packaged aseptically in cryovials and is provided frozen on dry ice. The product should be stored at -60°C or colder.

**Growth Conditions:**

Media:

Yeast Mold Broth or Agar

Incubation:

Temperature: 25°C to 30°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 to 30°C for 2 to 4 days.

**Citation:**

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Candida albicans*, Strain 12C, NR-29444.”

**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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm).

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**References:**

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2. Lockhart, S. R. et al. "In *Candida albicans*, White-Opaque Switchers are Homozygous for Mating Type." Genetics 162 (2002): 737-745. PubMed: 12399384.
3. Kim, J. and P. Sudbery. "*Candida albicans*, a Major Human Fungal Pathogen." J. Microbiol. 49 (2011): 171-177. PubMed: 21538235.
4. Karkowska-Kuleta, J., M. Rapala-Kozik and A. Kozik. "Fungi Pathogenic to Humans: Molecular Bases of Virulence of *Candida albicans*, *Cryptococcus neoformans* and *Aspergillus fumigatus*." Acta Biochim. Pol. 56 (2009): 211-224. PubMed: 19543556.
5. Niimi, M., R. D. Cannon and B. C. Monk. "*Candida albicans* Pathogenicity: a Proteomic Perspective." Electrophoresis 20 (1999): 2299-2308. PubMed: 10493133.
6. Jones, T., et al. "The Diploid Genome Sequence of *Candida albicans*." Proc. Natl. Acad. Sci. U.S.A. 101 (2004): 7329-7334. PubMed: 15123810.
7. d'Enfert, C., et al. "CandidaDB: a Genome Database for *Candida albicans* Pathogenomics." Nucleic Acids Res. 33 (2005): D353-D357. PubMed: 15608215.

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