

***Candida albicans*, Strain P78048**

Catalog No. NR-29434

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Classification: Mitosporic *Saccharomycetales*; *Candida*

Species: *Candida albicans*

Strain/Isolate: P78048

Original Source: *Candida albicans* (*C. albicans*), strain P78048 was isolated in 2000 from the bloodstream of a human in Winnipeg, Manitoba, Canada.¹

Comment: *C. albicans*, strain P78048 is reported to be a member of genetic clade I with an alpha/alpha *MTL* genotype.^{1,2} The complete genome for *C. albicans*, strain P78048 has been sequenced (GenBank: [AJIX00000000](https://www.ncbi.nlm.nih.gov/nuccore/AJIX00000000)).

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.^{3,4,5,6,7,8}

Material Provided:

Each vial contains approximately 0.5 mL of yeast culture in 10% glycerol. Each vial of lot 60842872 contains approximately 0.5 mL of yeast culture in 20% glycerol.

Packaging/Storage:

NR-29434 was packaged aseptically in cryovials and is provided frozen on dry ice. The product should be stored at -70°C or colder.

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: *Candida albicans*, Strain P78048, NR-29434."

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:

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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. Wu, W., et al. "Heterozygosity of Genes on the Sex Chromosome Regulates *Candida albicans* Virulence." Mol. Microbiol. 64 (2007): 1587-1604. PubMed: 17555440.
4. Kim, J. and P. Sudbery. "*Candida albicans*, a Major Human Fungal Pathogen." J. Microbiol. 49 (2011): 171-177. PubMed: 21538235.
5. 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.
6. Niimi, M., R. D. Cannon and B. C. Monk. "*Candida albicans* Pathogenicity: A Proteomic Perspective." Electrophoresis 20 (1999): 2299-2308. PubMed: 10493133.
7. Jones, T., et al. "The Diploid Genome Sequence of *Candida albicans*." Proc. Natl. Acad. Sci. USA 101 (2004): 7329-7334. PubMed: 15123810.
8. 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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