

***Coccidioides posadasii*, Δ chs5**

Catalog No. NR-4548

For research use only. Not for human use.

Contributor and Manufacturer:

University of Toledo, Toledo, Ohio and California State University, Bakersfield Foundation, Bakersfield, California

Product Description:

Classification: *Mitosporic Onygenales, Coccidioides*

Species: *Coccidioides posadasii*

Strain/Isolate: Δ chs5

Comment: NR-4548 was derived from *Coccidioides posadasii* (*C. posadasii*) strain C735 by selective disruption of the chitin synthase 5 (*chs5*) gene.¹ The strain is incapable of forming arthroconidia or spherules, or of reproduction in the parasitic phase, thereby rendering it avirulent.^{2,3} The strain was tested in a murine model of coccidioidomycosis and confirmed to be avirulent.^{2,3} The whole genome shotgun sequence of *C. posadasii* C735 Δ SOWgp [a transgenic strain of *C. posadasii* C735 that has had the spherule outer wall glycoprotein (SOWgp) gene deleted] is available (GenBank: [ACFW000000000](https://www.ncbi.nlm.nih.gov/nuccore/ACFW000000000)).

C. posadasii is a pathogenic fungus that, along with *C. immitis*, can cause mild to fatal respiratory disease (coccidioidomycosis, San Joaquin Valley fever, desert rheumatism) in both immunocompetent and immunocompromised individuals. *C. posadasii* resides in the soil in certain parts of southwestern United States, northern Mexico, and certain other areas in the Americas.

Material Provided:

Each vial of NR-4548 contains approximately 1 mL of fungal culture containing 10% DMSO.

Packaging/Storage:

NR-4548 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:

GYE (1% glucose, 0.5% yeast extract) Broth or Agar containing hygromycin. Note: The addition of 100 mM KCl may enhance growth as the culture is osmotically fragile.

Incubation:

Temperature: 27°C to 37°C

Atmosphere: Aerobic

Propagation:

1. Keep vial frozen until ready for use; thaw rapidly.
2. Transfer the entire thawed aliquot into GYE broth.
3. Incubate with shaking at 27°C to 37°C for 48 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Coccidioides posadasii*, Δ chs5, NR-4548."

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/bmb15/index.htm.

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NR-4548 is claimed in U.S. Patent Number 7,332,324 and the continuations, continuations-in-part, re-issues and foreign counterparts thereof.

References:

1. Mandel, M. A., et al. "*Coccidioides posadasii* Contains Single Chitin Synthase Genes Corresponding to Classes I to VII." Fungal Genet. Biol. 43 (2006): 775-788. PubMed: 16857399.
2. Cole, G. T., et al. "A Vaccine against Coccidioidomycosis is Justified and Attainable." Med. Mycol. 42 (2004): 189-216. PubMed: 15283234.
3. Hector, R. and G. W. Rutherford. "The Public Health Need and Present Status of a Vaccine for the Prevention of Coccidioidomycosis." Ann. N. Y. Acad. Sci. 1111 (2007): 259-268. PubMed: 17344529.

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