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SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-166

Coccidioides posadasii*, Δ*cts2*/Δ*ard1*/Δ*cts3

Catalog No. NR-166

Product Description: NR-166 was derived from *Coccidioides posadasii* (*C. posadasii*) strain C735 by deletion of two chitinase genes (*cts*2 and *cts*3) and a D-arabinitol 2-dehydrogenase gene (*ard*1). This attenuated strain can transform into first-generation spherules, but it is incapable of endosporulation, and therefore, cannot reproduce in the parasitic form of the fungus, rendering it avirulent. Avirulence of the Δ*cts2*/Δ*ard1*/Δcts3 strain was confirmed through a murine model of coccidiodomycosis.

Lot[1]: 2398-54 **Manufacturing Date: 24JAN2007**

TEST	SPECIFICATIONS	RESULTS
Virulence Assay[1]	Non-pathogenic and avirulent	Non-pathogenic and avirulent[2]

[1]Approximately 5000 viable spores were delivered intransally to susceptible C57BL/6 female mice. After observation for 4 weeks, the spleen and entire lungs from each mouse were placed on individual GYE (1% glucose, 0.5% yeast extract) agar plates with hygromycin and incubated for 10 days at 37°C for recovery of viable fungus.
[2]All mice infected with *C. posadasii*, Δ*cts2*/Δ*ard1*/Δ*cts3* retained a normal and healthy appearance. No lesions were noted at gross necropsy. Cultured organs showed no evidence of fungal growth.

Date: 06 SEP 2012 **Signature:**

Title: Technical Manager, BEI Authentication or designee

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected by the contributor to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898