

## **Certificate of Analysis for NR-9231**

## Giardia lamblia, Strain Egypt-4

Catalog No. NR-9231

Product Description: Giardia lamblia is a pear-shaped, flagellated protozoan that causes a wide variety of gastrointestinal complaints and is one of the most common causes of parasite infection of humans worldwide.

Lot1: 57942650 Manufacturing Date: 08NOV2007

TEST	SPECIFICATIONS	RESULTS
Genotypic Analysis <sup>2</sup> Sequencing of cytidine triphosphate synthase gene (~ 1540 bp)	Consistent with Giardia lamblia	Consistent with Giardia lamblia
PCR Assay of Extracted DNA <sup>2</sup> Cytidine triphosphate synthase gene	1830 bp amplicon	1830 bp amplicon
Viable Cell Count by Hemacytometry (pre-freeze)	> 10 <sup>6</sup> cells/mL	8.8 x 10 <sup>6</sup> cells/mL
Viability (post-freeze) <sup>3</sup>	Growth	Growth
Sterility (21-day incubation)  Harpo's HTYE broth <sup>4</sup> , 37°C and 26°C, aerobic Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C and 5% CO <sub>2</sub>	No growth	No growth

¹NR-9231 was produced by cultivation of the deposited material in ATCC® medium 2695 supplemented with Diamond's Vitamin Solution and 10% heat-inactivated adult bovine serum. The culture was propagated for 7 days at 35°C in an axenic and microaerophilic atmosphere, until peak density was reached.

**Date:** 09 JUL 2008 Signature: Signature on File

**Title:** Technical Manager, BEI Authentication or designee

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<sup>&</sup>lt;sup>2</sup>Genotypic analyses were completed with pre-freeze cultures

<sup>&</sup>lt;sup>3</sup>Incubated under cultivation conditions for approximately 1 week at 35°C

<sup>&</sup>lt;sup>4</sup>Atlas, Ronald M. Handbook of Microbiological Media. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.