

Certificate of Analysis for NR-41337

Biomphalaria glabrata, Alpha-Tubulin Gene Forward Primer

Catalog No. NR-41337

This reagent is the tangible property of the U.S. Government.

Product Description: NR-41337 contains a twenty-one nucleotide forward primer designed to amplify the alpha-tubulin gene from *Biomphalaria glabrata* (*B. glabrata*) when paired with the alpha-tubulin reverse primer (NR-41373). The sequence of the alpha-tubulin forward 21-mer is 5'-ACTAGTGGATCCCCGGGCTG-3'.

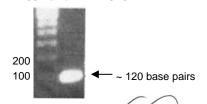
Lot¹: 61433130 Manufacturing Date: 17MAY2012

TEST	SPECIFICATIONS	RESULTS
PCR Assay of Extracted Nucleic Acid ^{2,3}		
Biomphalaria glabrata	~ 120 base pair amplicon	~ 120 base pair amplicon (Figure 1)
Schistosoma mansoni	No amplicons	No amplicons
Primer Characteristics ¹		
Molecular weight	Report results	6423 g/mol
Primer melting temperature (Tm)	Report results	68.4°Č
GC content	Report results	66.7%
Primer concentration	Report results	100 μΜ
Moles of primer	Report results	3.0 nmoles per vial
Micrograms of primer	Report results	19.3 µg per vial
Gene Stability by Quantitative Real-Time PCR	Report results	No statistical significant difference in threshold cycle (Ct) ^{4,5}

¹NR-41337 lot: 61433130 was manufactured by Eurofins MWG Operon. Primer characteristics were determined by the manufacturer. The bulk material was thawed and aliquoted at ATCC[®].

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Figure 1: PCR Amplification of *B. glabrata* Alpha-Tubulin using NR-41337 and NR-41373



Date: 29 AUG 2013 Signature:

Title: Technical Manager, BEI Authentication or designee

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²PCR completed by the Biomedical Research Institute prior to vialing.

³Position 14 to 131 of GenBank: FC857565.1

⁴20 individual snails were utilized for RT-PCR amplification

⁵ANOVA test (P value = 0.01)