Certificate of Analysis for MRA-178

Diagnostic Plasmid Containing the Small Subunit Ribosomal RNA Gene (18S) from *Plasmodium vivax*

Catalog No. MRA-178

Product Description:

MRA-178 is an *Escherichia coli (E. coli)* plasmid encoding the small subunit ribosomal RNA gene (18S rRNA gene; GenBank: AF145335) from *Plasmodium vivax (P. vivax)*, strain Thai 3. The small subunit ribosomal RNA gene was amplified from genomic DNA by nest 1 PCR primers and cloned into vector pCR2.1-TOPO (Invitrogen™). The resulting plasmid (clone 16) may be used in PCR assays for the diagnosis of mixed species malaria infections.

Lot: 70026689[1,2] **Manufacturing Date: 09AUG2019**

TEST	SPECIFICATIONS	RESULTS
Next-Generation DNA Sequencing[3] MRA-178 18S rRNA gene pCR2.1-TOPO (Invitrogen™)	 ~ 5000 base pairs ~ 1100 base pairs ~ 3900 base pairs	 5052 base pairs (Figures 1 and 2)[4] 1124 base pairs 3928 base pairs
Genotypic Analysis Sequencing of 18S ribosomal RNA gene (~ 1120 base pairs)	≥ 99% sequence identity to *P. vivax* 18S rRNA gene (GenBank: AF145335.1)	99.6% sequence identity to *P. vivax* 18S rRNA gene (GenBank: AF145335.1)
Concentration by PicoGreen® Measurement	Report results	0.5 µg in 50 µL per vial (10 µg/mL)
Amount	Report results	~ 500 ng per vial
OD_{260}/OD_{280} Ratio	1.7 to 2.1	1.9

[1]Produced from a preparation of MR-MRA-178 lot 58068547 in One Shot® TOP10 chemically competent *E. coli* (Invitrogen™ C404010) and extracted using a QIAprep® Spin Miniprep Kit (QIAGEN® 27104).
[2]MRA-178 lot 70026689 was vialed in EB buffer (10 mM Tris-HCl, pH 8.5).
[3]Illumina® MiSeq® sequence was analyzed with CLC Genomics Workbench
[4]Plasmid map was generated using DNASTAR® SeqBuilder™ Version 14.1

Figure 1: Complete Plasmid Sequence of MRA-178

>MRA-178 lot 70026689 complete plasmid sequence (red text is 18S rRNA gene sequence)

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

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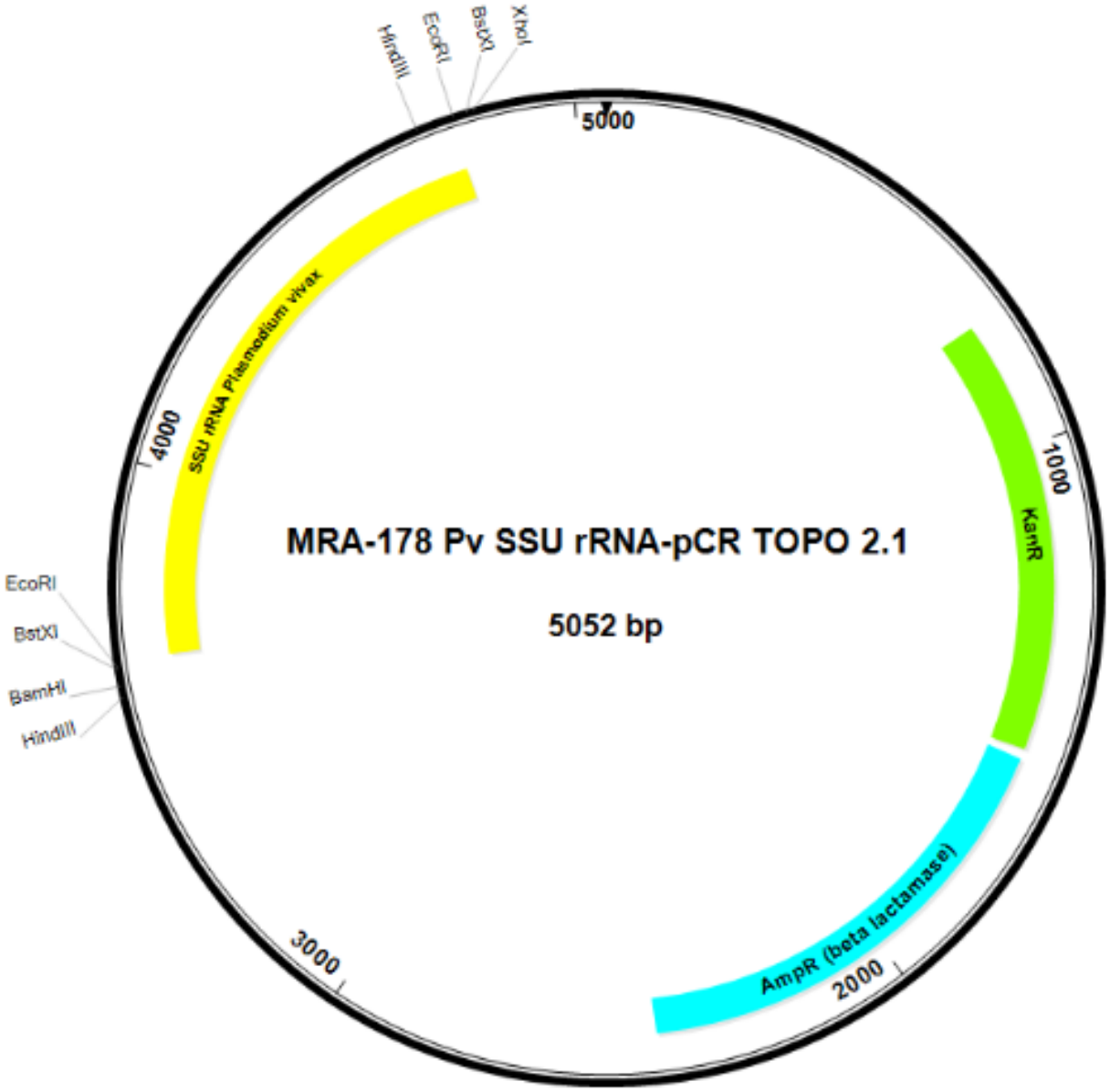
Figure 2: Plasmid Map of MRA-178



/Heather Couch/
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