Certificate of Analysis for MRA-179

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

Catalog No. MRA-179

Product Description: The small subunit ribosomal RNA gene (18S rRNA gene; GenBank: AF145336) from *Plasmodium malariae* (*P. malariae*) was amplified from genomic DNA by nest 1 PCR primers and cloned into vector pCR2.1-TOPO (Invitrogen®). The resulting plasmid (clone 34) may be used in PCR assays for the diagnosis of mixed species malaria infections.

Lot[1,2]: 2165 **Manufacturing Date: MAR2017**

TEST	SPECIFICATIONS	RESULTS
Next-Generation DNA Sequencing[3] MRA-179 18S rRNA gene pCR2.1-TOPO (Invitrogen®)	 ~ 5000 base pairs ~ 1100 base pairs ~ 3900 base pairs	 5045 base pairs (Figures 1 and 2) 1114 base pairs 3931 base pairs
Genotypic Analysis Sequencing of 18S ribosomal RNA gene (~ 1110 base pairs)	≥ 99% sequence identity to *P. malariae* 18S rRNA gene (GenBank: AF145336)	100% sequence identity to *P. malariae* 18S rRNA gene (GenBank: AF145336)
Concentration by PicoGreen® Measurement	Report results	0.5 µg in 50 µL per vial (17.8 µg/mL)
Amount	Report results	~ 500 ng per vial
OD_{260}/OD_{280} Ratio	1.7 to 2.1	1.9

[1]MRA-179, lot 2165 was extracted from a preparation of MR-MRA-179, lot 58068548.
[2]Extracted using a QIAprep® Spin Miniprep Kit (QIAGEN® 27104)
[3]Illumina® MiSeq® sequence was analyzed with CLC Genomics Workbench Version 7.5.

Figure 1: Complete Plasmid Sequence of MRA-179

>MRA-179 |lot_2165| complete plasmid sequence (red text is 18S rRNA gene sequence)

GTAAGCCCACTGCAAGCTACCTGCTTTCTCTTTGCGCTTGCGTTTTCCCTTGTCCAGATAGCCCAGTAGCTGACATTCATCCGGGGTCAGCACCGTT
TCTGCGGACTGGCTTTCTACGTGTTCCGCTTCCTTTAGCAGCCCTTGCGCCCTGAATTTTGTTAAAATTCGCGTTAAATTTTTGTTAAATCAGCTCA
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AGGGCGCGTCCATTCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGATGT
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CTGTTTCCTGTGTGAAATTGTTATCCGCTCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAGCT
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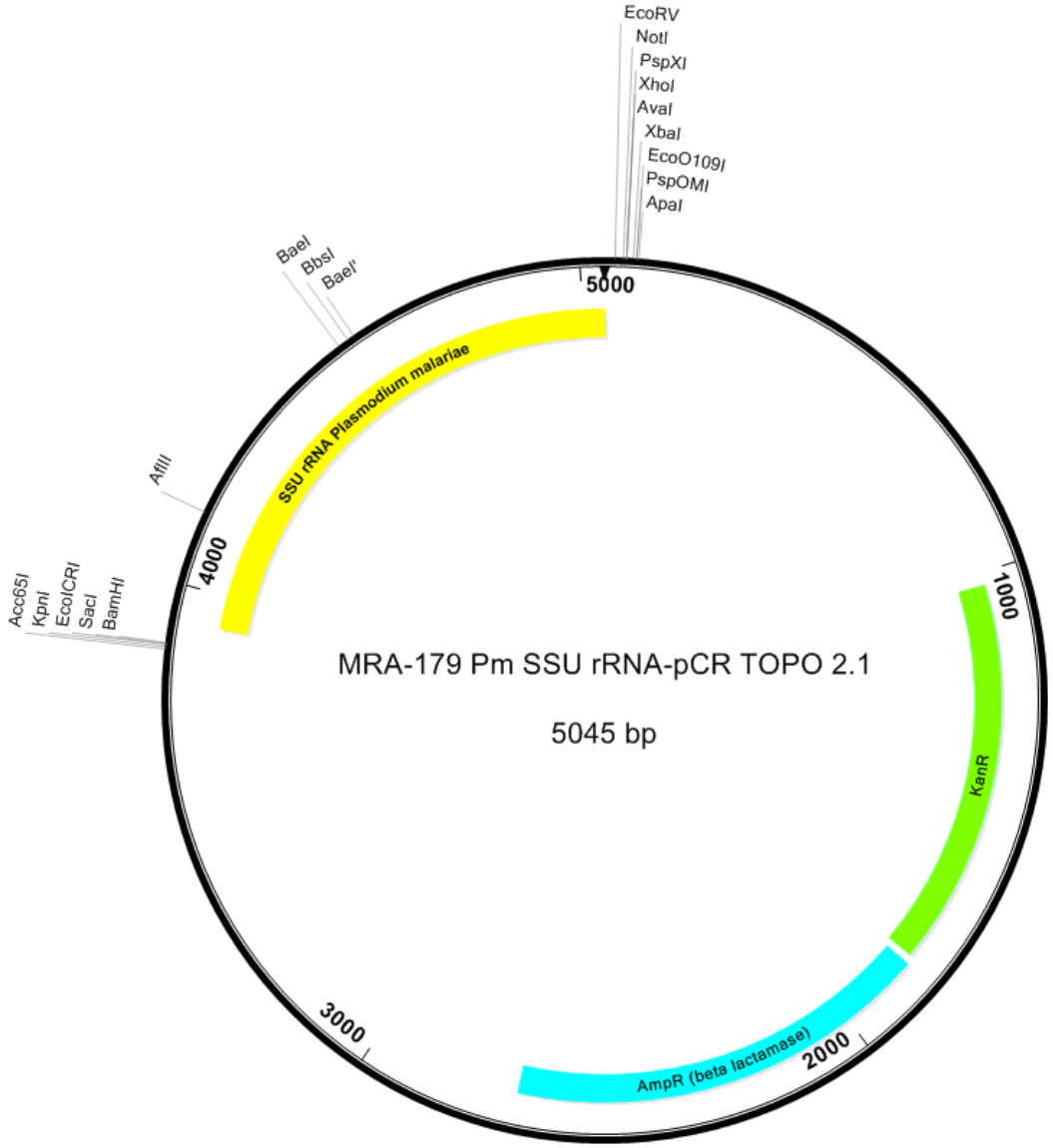
Figure 2: Plasmid Map of MRA-179



Date: 16 AUG 2017 **Signature:**

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