

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

**Catalog No. MRA-180**

**Product Description:** MRA-180 is an *Escherichia coli* (*E. coli*) plasmid encoding the small subunit ribosomal RNA gene (18S rRNA gene; GenBank: [AF145337](#)) from *Plasmodium ovale* (*P. ovale*), strain Nigerian I. 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 54) may be used in PCR assays for the diagnosis of mixed species malaria infections.

**Lot<sup>1,2</sup>: 70018117**

**Manufacturing Date: 22NOV2018**

TEST	SPECIFICATIONS	RESULTS
<b>Next-Generation DNA Sequencing<sup>3</sup></b> MRA-180 18S rRNA gene pCR2.1-TOPO (Invitrogen™)	~ 5000 base pairs ~ 1100 base pairs ~ 3900 base pairs	4999 base pairs (Figures 1 and 2) <sup>4</sup> 1068 base pairs 3931 base pairs
<b>Genotypic Analysis</b> Sequencing of 18S ribosomal RNA gene (~ 1070 base pairs)	≥ 99% sequence identity to <i>P. ovale</i> 18S rRNA gene (GenBank: AF145337.1)	100% sequence identity to <i>P. ovale</i> 18S rRNA gene (GenBank: AF145337.1)
<b>Concentration by PicoGreen® Measurement</b>	Report results	0.2 µg in 20 µL per vial (10 µg/mL)
<b>Amount</b>	Report results	~ 200 ng per vial
<b>OD<sub>260</sub>/OD<sub>280</sub> Ratio</b>	1.7 to 2.1	1.9

<sup>1</sup>Produced from a preparation of MR-MRA-180 lot 50068550 in One Shot® TOP10 chemically competent *E. coli* (Invitrogen™ C404010) and extracted using a QIAprep® Spin Miniprep Kit (QIAGEN® 27104)

<sup>2</sup>MRA-180 lot 70018117 was vialled in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0).

<sup>3</sup>Illumina® MiSeq® sequence was analyzed with CLC Genomics Workbench.

<sup>4</sup>Plasmid map was generated using DNASTAR® SeqBuilder™ Version 14.1.

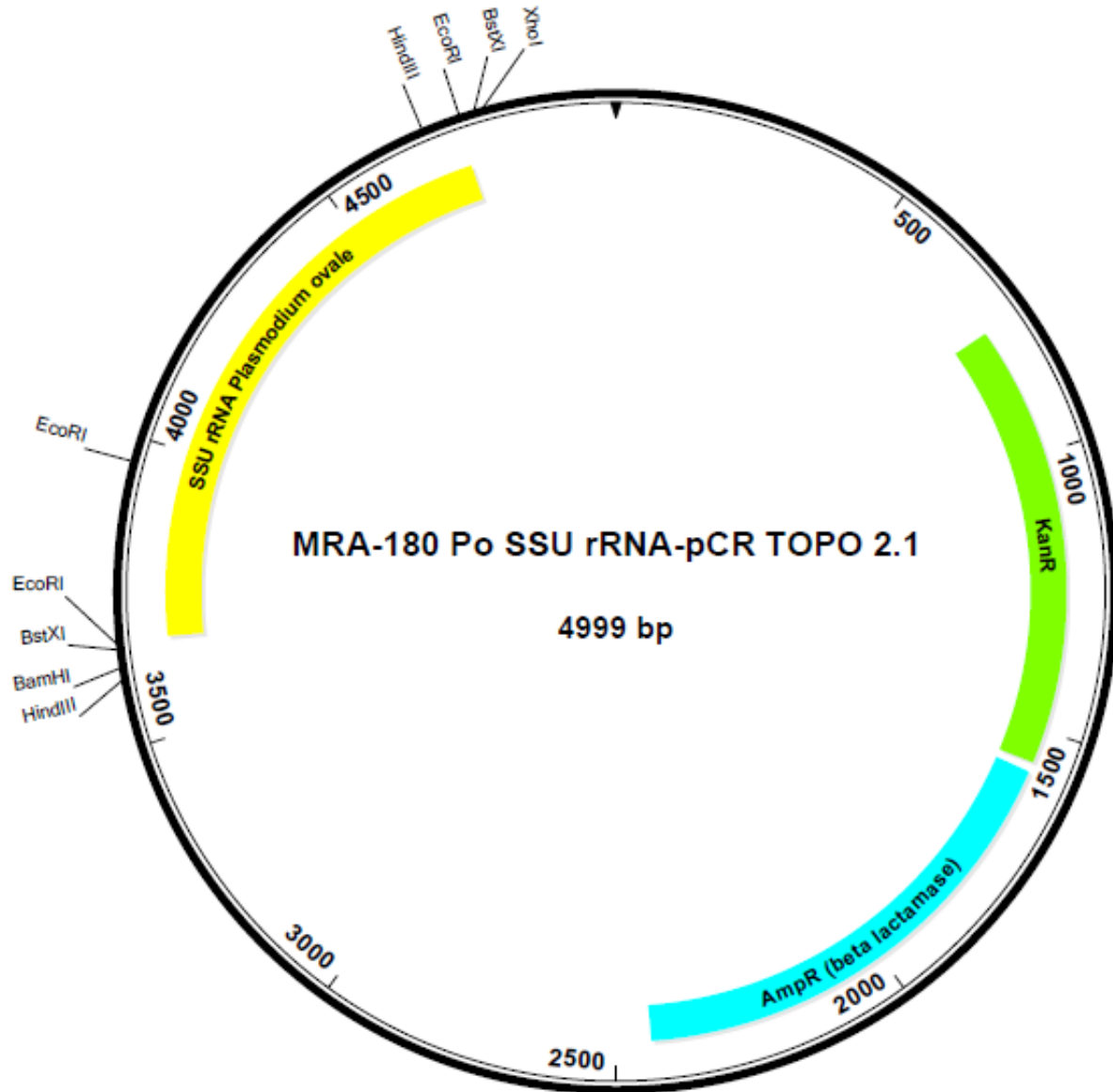
**Figure 1: Complete Plasmid Sequence of MRA-180**

>MRA-180 [lot\_70018117] complete plasmid sequence (red text is 18S rRNA gene sequence)

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Figure 2: Plasmid Map of MRA-180



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Program Manager or designee, ATCC Federal Solutions

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