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

## Catalog No. MRA-180

## For research use only. Not for human use.

### Contributor:
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### Manufacturer:
BEI Resources

### 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.[1,2] 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.[1,2] The recommended host for expression is *E. coli* TOP10. A multiple cloning site flanks the 18S rRNA open reading frame. Ampicillin and kanamycin *(E. coli)* were incorporated as selectable markers.[1]

The resulting size of the plasmid is approximately 5000 base pairs. The complete plasmid sequence and plasmid map are provided on the Certificate of Analysis for MRA-180.

### Material Provided:
Each vial contains approximately 0.2 µg of plasmid DNA in buffer. The amount per vial, concentration and buffer composition are shown on the Certificate of Analysis. The vial should be centrifuged prior to opening.

### Packaging/Storage:
MRA-180 was packaged aseptically in screw-capped plastic cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be minimized.

### Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Diagnostic Plasmid Containing the Small Subunit Ribosomal RNA Gene (18S) from *Plasmodium ovale*, MRA-180, contributed by Peter A. Zimmerman."

### Biosafety Level: 1
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

### Disclaimers:
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### References:
1. Zimmerman, P. A., Personal Communication.
2. Mehlotra, R. K., et al. "Random Distribution of Mixed Species Malaria Infections in Papua New Guinea." Am. J. Trop. Med. Hyg. 62 (2000): 225-231. PubMed: 10813477.
3. Snounou, G., et al. "High Sensitivity of Detection of Human Malaria Parasites by the Use of Nested Polymerase Chain Reaction." Mol. Biochem. Parasitol. 61 (1993): 315-320. PubMed: 8264734.
4. Phuong, M., et al. "Sequence-Based Optimization of a Quantitative Real-Time PCR Assay for Detection of *Plasmodium ovale* and *Plasmodium malariae*." J. Clin. Microbiol. 52 (2014): 1068-1073. PubMed: 24430459.



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