

***Plasmodium falciparum*, Strain 7G8**

Catalog No. MRA-926

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Product Description:

Plasmodium falciparum (*P. falciparum*), strain 7G8 was cloned from the IMTM22 strain by limiting dilution. The original IMTM22 strain was isolated from a 12-year-old male near Manaus, Brazil in 1980. MRA-926 was produced by cultivation of BEI Resources MR-MRA-926 lot 58422570 in fresh human erythrocytes suspended in RPMI 1640 medium, adjusted to contain 10% (v/v) heat-inactivated human serum (pooled Type A), 25 mM HEPES, 2 mM L-glutamine, 4 g/L D-glucose, 0.005 µg/mL hypoxanthine and 2.5 µg/mL gentamicin. The culture was incubated at 37°C in sealed flasks outgassed with blood-gas atmosphere (90% N₂, 5% CO₂, 5% O₂) and monitored for parasitemia daily for 8 days. Every 1 to 3 days, uninfected, leukocyte filtered, Type O erythrocytes in complete culture medium were added dropwise to the culture as needed and monitored for hematocrit.

Lot: 63079297

Manufacturing Date: 11NOV2014

TEST	SPECIFICATIONS	RESULTS
Identification by Giemsa Stain Microscopy ¹	Blood-stage parasites present	Blood-stage parasites present
Antimalarial Susceptibility Profile (<i>in vitro</i>) ¹ Half-maximal Inhibitory Concentration (IC ₅₀) by SYBR green I [®] drug sensitivity assay ² Chloroquine Artemisinin Quinine Cycloguanil Pyrimethamine Sulfadoxine	Report results Report results Report results Report results Report results Report results	46.1 ± 6.4 nM 3.9 ± 0.5 nM 63.9 ± 10.3 nM 614.8 ± 42.5 nM 44980 ± 4148.3 nM 227600 ± 170025 nM
Genotypic Analysis ¹ Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 800 base pairs) MSP2 PCR amplicon analysis	≥ 99% sequence identity to <i>P. falciparum</i> , strain 7G8 (GenBank: ABGZ02000545) ~ 600-900 base pair amplicon	100% sequence identity to <i>P. falciparum</i> , strain 7G8 (GenBank: ABGZ02000545) (Figure 1) ~ 900 base pair amplicon
Level of Parasitemia by Giemsa Stain Microscopy Pre-freeze (8 days post-infection) ³ Ring-stage parasitemia Total parasitemia Post-freeze (4 days post-infection) ¹ Ring-stage parasitemia Total parasitemia	Report results ≥ 2% Report results ≥ 1%	5.42% 7.50% 5.23% 8.93%
Viability (post-freeze; 4 days post-infection) ¹	Growth in infected red blood cells	Growth in infected red blood cells
Sterility (21-day incubation) ¹ Harpo's HTYE broth, 37°C and 26°C, aerobic ⁴ Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic DMEM with 10% FBS, 37°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic	No growth No growth No growth No growth No growth No growth No growth	No growth No growth No growth No growth No growth No growth No growth
Mycoplasma Contamination ¹ DNA detection by PCR	None detected	None detected

¹Testing completed on vial, post-freeze material

²A SYBR Green I[®] anti-malarial drug sensitivity assay in 96-well plates was used to determine IC₅₀ values of an active (> 70% ring stage) parasite culture in the presence of each antimalarial drug [Hartwig, C. L., et al. "XI: I. SYBR Green I[®]-Based Parasite Growth Inhibition Assay for Measurement of Antimalarial Drug Susceptibility in *Plasmodium falciparum*." In *Methods in Malaria Research Sixth Edition*. (2013) Moll, K., et al. (Ed.), EVIMalaR, pp. 122-129. Available at: <https://www.beiresources.org/Publications/MethodsInMalariaResearch.aspx>.]

³Testing completed on bulk material prior to vialing and freezing

⁴Atlas, Ronald M. *Handbook of Microbiological Media*. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.

Figure 1: MRA-926 MSP2 Sequence

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AATATGGCAA AAGATAAAAC AAGTGTGGCT GAAATTAATA CAACAAATTT ATTTATTGAA GCAATATTAC TAGAGTTACT
TAAGAGGGAT GGTGCTGCTC CACAGTTTTT TTTGTTACCA TCGGTACATT CTTTTTGACT ATCAGAAGTA TTTTGTGGAT
GATTATTTCT AGAACCATGC ATATGTCCAT GTTGTCTCTG ACCTTTATTC TCTGGTGCAG ATTGTAATTC GGGGGATTCA
GTTTGTTCGG CTATTGGAGC AGAATTTTCA GCTTGTTCAG GTTGTGCAGT AGGACTTTTA GTGTCTGCAT CTTGAGTGGG
TGGAACATTT GATTTAGTTT GAGAGTCTTG TTGAACATTT GAGTTATTTT GAGTTTCTTT ATTTGCTTGA TTTGGTTTTT
GAACTTCTCC TTTACCTTTT GGATTTGTTT CGGCATTATT ATGATTTGGA TTTTCTGAAG AGGTACTGGT AGATGCTTCT
GCATCATTAG TAGTTGTGGT AGTTGTGGTA GTAGCGGGAG TACTTGGACT TCTCTCAGCA TCTGCACCAG GATTAGCACC
ATTACCATCA CCAGAACCAG CACTACCCT ACCACCAGCA CTACCCTAC CACCAGCACT ACCACTACCA CCAGCACTAC
CACTACCACC AGCACTACCA CTACCACCAG CACCAGTAGA AGGATTACTT TCTGCCATAC TTCTCCTTAT ACTCATATTA
TAAGCATTGT TTATGAATGT GTTGCTATAT TTACTTTTCT TTTTAATATT AAAGGTAACA AAAATAAAGA AATTTATAAT
AGACAATGTT TTAA
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/Heather Couch/

Heather Couch

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