

Plasmodium falciparum, Strain 7G8

Catalog No. MRA-154

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-154 was produced by cultivation of the BEI Resources seed lot 63885527 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, 2 g/L D-glucose, 27 µg/mL hypoxanthine and 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 every 1 to 3 days for 12 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: 70079545

Manufacturing Date: 11NOV2025

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TEST	SPECIFICATIONS	RESULTS
Identification by Giemsa Stain Microscopy¹	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	Report results	47.8 ± 1.1 nM
Artemisinin	Report results	7.1 ± 0.2 nM
Quinine	Report results	127.5 ± 2.9 nM
Cycloguanil	Report results	569.3 ± 26.2 nM
Pyrimethamine	Report results	18270 ± 841.7 nM
Sulfadoxine	Report results	539200 ± 24840 nM
Genotypic Analysis¹ Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 790 base pairs)	Consistent with <i>P. falciparum</i>	Consistent with <i>P. falciparum</i> (Figure 1)
Level of Parasitemia by Giemsa Stain Microscopy Pre-freeze (12 days post-infection) ³		
Ring-stage parasitemia	Report results	2.19%
Total parasitemia	≥ 2%	3.28%
Post-freeze (3 days post-infection) ¹		
Ring-stage parasitemia	Report results	4.70%
Total parasitemia	≥ 1%	6.30%
Viability (3 days post-infection)¹	Growth in infected red blood cells	Growth in infected red blood cells
Sterility (14-day incubation)		
Trypticase soy broth, 37°C and 26°C, aerobic	No growth	No growth
Sabouraud broth, 37°C and 26°C, aerobic	No growth	No growth
Sheep blood agar, 37°C, aerobic	No growth	No growth
Sheep blood agar, 37°C, anaerobic	No growth	No growth
Thioglycollate broth, 37°C, anaerobic	No growth	No growth
Mycoplasma Contamination¹ 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. *Methods in Malaria Research Sixth Edition* is available on the [BEI Resources website](#).]
³Testing completed on bulk material prior to vialing and freezing

Figure 1: MRA-154 MSP2 Sequence

CATTGTCTATTATAAAATTTCTTTATTTTTGTTACCTTTAATATTTAAAAATGAAAGTAAATATAGCAACACATTTCATAACAATGCTTATAATATGAG
TATAAGGAGAAGTATGGCAGAAAAGTAACTCTTCTACTGGTGGTGGTAGTGGTAGTGGTGGTGGTAGTGGTAGTGGTGGTGGTAGTGGTAGTGGT
GGTGGTAGTGGTAGTGGTGGTGGTAGTGGTGGTGGTAGTGGTGGTGGTAGTGGTGGTGGTAGTGGTGGTGGTAGTGGTGGTGGTAGTGGTGGTGGT
CCGCTACTACCACAACCTACCACAACCTACTAATGATGCAGAAGCATCTACCAGTACCTCTTCAGAAAATCCAAATCATAATAATGCCGAAACAAATCC
AAAAGGTAAAGGAGAAGTTCAAAAACCAATCAAGCAAATAAAGAAACTCAAAAATAACTCAAATGTTCAACAAGACTCTCAAACATAATCAAATGTT
CCACCCACTCAAGATGCAGACACTAAAAGTCTACTGCACAACCTGAACAAGCTGAAAAATCTGCTCCAATAGCCGAAACAAACTGAATCCCCGAAT
TACAATCTGCACCAGAGAATAAAGGTACAGGACAACATGGACATATGCATGGTTCAGAAAATAATCATCCACAAAATACTTCTGATAGTCAAAAAGA
ATGTACCGATGGTAACAAAGAAAACGTGGAGCAGCACCATCCCTCTAAGTAACTTAGTAATATTGCTTCAATAAATAAATTTGTTGTTTTAATT
TCAGCAACACTTGTTT

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