

Plasmodium falciparum, Strain FCR-3/FMG (Gambia)
Catalog No. MRA-736
Product Description:

Plasmodium falciparum (*P. falciparum*), strain FCR-3/FMG (Gambia) was originally isolated in 1976 from the blood of a human patient collected in The Gambia, West Africa. MRA-736 was produced by cultivation of the BEI Resources seed lot 58319489 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 10 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: 70081736
Manufacturing Date: 26MAR2026

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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 Artemisinin Quinine Cycloguanil Pyrimethamine Sulfadoxine	Report results Report results Report results Report results Report results Report results	57.5 ± 8.0 nM 4.4 ± 0.3 nM 195.3 ± 22.5 nM 873.6 ± 40.2 nM 92.8 ± 12.9 nM 331100 ± 45889 nM
Genotypic Analysis¹ Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 798 base pairs)	Consistent with <i>P. falciparum</i>	Consistent with <i>P. falciparum</i> (Figure 1)
Functional Activity by PCR Amplification¹ MSP2 PCR amplicon analysts	~700 to 900 base pair amplicon	~1000 base pair amplicon
Level of Parasitemia by Giemsa Stain Microscopy Pre-freeze (10 days post-infection) ³ Ring-stage parasitemia Total parasitemia Post-freeze (2 days post-infection) ¹ Ring-stage parasitemia Total parasitemia	Report results ≥ 2% Report results ≥ 1%	2.51% 3.52% 2.04% 3.53%
Viability (2 days post-infection)¹	Growth in infected red blood cells	Growth in infected red blood cells
Sterility (14-day incubation)¹ Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°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

TEST	SPECIFICATIONS	RESULTS
Mycoplasma Contamination¹ DNA detection by PCR	None detected	None detected

¹Testing completed on vialled, 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](https://www.beiresources.org/).]

³Testing completed on bulk material prior to vialing and freezing.

Figure 1: MRA-736 MSP2 Sequence

TAAACATTGCTATTATAAAATTTCTTTATTTTTGTTACCTTTAATATTAATAATGAAAGTAAATATAGCAACACATTCATAAACAAATGCTTATAA
TATGAGTATAAGGAGAAGTATGACAGAAAGTAATCCTCTACTGGTGCTAGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCT
GGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCT
GTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCTGGTGGTAGTGCT
TACTAATGATGCAGAAGCATCTACCAGTACCTCTTCAGAAAATCCAAATCATAATAATGCCGAAACAAATCAAGCAAATAAAGAAACTCAAATAAC
TCAAATGTTCAACAAGACTCTCAAATAAATCAAATGTTCCACCCACTCAAGATGCAGACACTAAAAGTCCTACTGCACAACCTGAACAAGCTGAAA
ATTCTGCTCCAACAGCCGAACAACTGAATCCCCGAATTACAATCTGCACCAGAGAATAAAGGTACAGGACAACATGGACATATGCATGGTTCTAG
AAATAATCATCCACAAAATACTTCTGATAGTCAAAAAGAATGTACCGATGGTAACAAAGAAACTGTGGAGCAGCAACATCCCTCTTAAATAACTCT
AGTAATATTGCTTCAATAAATA

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