b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for MRA-285

Plasmodium falciparum, Strain D6

Catalog No. MRA-285

This reagent is the tangible property of the U.S. Government.

Product Description:

Plasmodium falciparum (P. falciparum), strain D6 was collected in Sierra Leone and is generally considered drug sensitive with minor mefloquine resistance. MRA-285 was produced by cultivation of the BEI Resources seed lot 59155175 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% N_2, 5% CO_2, 5% O_2) and monitored for parasitemia every 1 to 3 days for 20 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: 70070911 **Manufacturing Date: 23OCT2024**

BEI Resources is committed to ensuring digital accessibility for people with disabilities. This Certificate of Analysis contains complex tables and may not be fully accessible. Please let us know if you encounter accessibility barriers and a fully accessible document will be provided: E-mail: Contact@BEIResources.org. We try to respond to feedback within 24 hours.

TEST	SPECIFICATIONS	RESULTS
Identification by Giemsa Stain Microscopy[1]	Blood-stage parasites present	Blood-stage parasites present
Antimalarial Susceptibility Profile (*in vitro*)[1]		
Half-maximal Inhibitory Concentration (IC_{50}) by SYBR green I® drug sensitivity assay[2]		
Chloroquine	Report results	6.4 ± 0.3 nM
Artemisinin	Report results	8.6 ± 0.2 nM
Quinine	Report results	18.6 ± 0.9 nM
Cycloguanil	Report results	5.9 ± 0.4 nM
Pyrimethamine	Report results	23.7 ± 1.1 nM
Sulfadoxine	Report results	566000 ± 26075 nM
Genotypic Analysis[1]		
Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 710 base pairs)	Consistent with *P. falciparum*	Consistent with *P. falciparum* (Figure 1)
Level of Parasitemia by Giemsa Stain Microscopy		
Pre-freeze (20 days post-infection)[3]		
Ring-stage parasitemia	Report results	3.1%
Total parasitemia	≥ 2%	5.0%
Post-freeze (2 days post-infection)[1]		
Ring-stage parasitemia	Report results	1.6%
Total parasitemia	≥ 1%	1.8%
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	No growth	No growth
Sabouraud broth, 37°C and 26°C, aerobic	No growth	No growth
DMEM with 10% FBS, 37°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 Contamination[1]		
DNA detection by PCR	None detected	None detected

[1]Testing completed on vialed, post-freeze material

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

[2]A SYBR Green I® anti-malarial drug sensitivity assay in 96-well plates was used to determine IC_{50} 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.]
[3]Testing completed on bulk material prior to vialing and freezing

Figure 1: MRA-285 MSP2 Sequence

CCTTTAATATTAAAAATGAAAGTAAATATAGCAACACATTCATAAACAATGCTTATAATATGAGTATAAGGAGAAGTATGGCAAATGAAGGTTCTAG
TACTAATAGTGTAGGTGCAAATGCTCCAAAAGCTGATACTATTGCTAGTGGAAGTCAAAGTAGTACAAATAGTGCAAGTACTAGTACTACTAATAAT
AGAGAATCACAAACTACTACTCCTACCACTGCTGATACCCCTACTGCTACAGAAAGTAATTCACCTTCACCACCCATCGCTACTACAGAAAGTAATT
CACCTTCACCACCCATCACTACTACAGAAAGTAATTCACCTTCACCACCCATCACTACTACAGAAAGTTCAAGTTCTGGCAATGCACCAAATAAAAC
AGACGGTAAAGGAGAAGAGAGTGAAAAACAAAATGAATTAAATGAATCAACTGAAGAAGGACCCAAAGCTCCACAAGAACCTCAAACGGCAGAAAAT
GAAAATCCTGCTGCACCAGAGAATAAAGGTACAGGACAACATGGACATATGCATGGTTCTAGAAATAATCATCCACAAAATACTTCTGATAGTCAAA
AAGAATGTACCGATGGTAACAAAGAAAACTGTGGAGCAGCAACATCCCTCTTAAATAACTCTAGTAATATTGCTTCAATAAATAAATTTGTTGTTTT
AATTTCAGCAACACTTGTTTTATCTTTT

/Sonia Bjorum Brower/
Sonia Bjorum Brower 22 SEP 2025
Technical Manager or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.