

Plasmodium falciparum, Strain SB1-A6

Catalog No. MRA-1002

Product Description:

Plasmodium falciparum (*P. falciparum*), strain SB1-A6 is a drug-selected [3-(6,6,6-trifluorohexyloxy)-6-aminoacridone (6-NH₂Ac)] clone of the parent strain D6. Strain D6 was collected in Sierra Leone. MRA-1002 lot 70050432 was produced by cultivation of the BEI Resources seed lot 59073395 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 for 12 days. Every 1 to 4 days, uninfected, leukocyte filtered, Type O erythrocytes in complete culture medium were added dropwise to the culture as needed and monitored for hematocrit.

Lot: 70050432

Manufacturing Date: 01MAR2022

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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	6.6 ± 0.5 nM
Artemisinin	Report results	12.2 ± 0.3 nM
Quinine	Report results	29.5 ± 1.4 nM
Cycloguanil	Report results	8.9 ± 1.2 nM
Pyrimethamine	Report results	28.2 ± 2.6 nM
Sulfadoxine	Report results	568700 ± 39316 nM
Atovaquone		
24.4 nM to 25,000 nM	Report results	7561 ± 348 nM
0.24 nM to 250 nM	Report results	78 ± 1.6 nM
Genotypic Analysis¹ Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 710 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	3.09%
Total parasitemia	≥ 2%	5.06%
Post-freeze (3 days post-infection) ¹		
Ring-stage parasitemia	Report results	0.58%
Total parasitemia	≥ 1%	2.14%
Viability (3 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	No growth	No growth
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

TEST	SPECIFICATIONS	RESULTS
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](http://www.beiresources.org).]

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-1002 MSP2 Sequence

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CTTTAATATT AAAAATGAAA GTAAATATAG CAACACATTC ATAAACAATG CTTATAATAT GAGTATAAGG AGAAGTATGG CAAATGAAGG
TTCTAGTACT AATAGTGTAG GTGCAAATGC TCCAAAAGCT GATACTATTG CTAGTGGGAG TCAAAGTAGT ACAAATAGTG CAAGTACTAG
TACTACTAAT AATAGAGAAT CACAAACTAC TACTCCTACC ACTGCTGATA CCCCTACTGC TACAGAAAGT AATTCACCTT CACCACCCAT
CGCTACTACA GAAAGTAATT CACCTTCACC ACCCATCACT ACTACAGAAA GTAATTCACC TTCACCACCC ATCACTACTA CAGAAAGTTC
AAGTTCTGGC AATGCACCAA ATAAAACAGA CGGTAAGGA GAAGAGAGTG AAAAAACAAA TGAATTAAT GAATCAACTG AAGAAGGACC
CAAAGCTCCA CAAGAACCTC AAACGGCAGA AAATGAAAAT CCTGCTGCAC CAGAGAATAA AGGTACAGGA CAACATGGAC ATATGCATGG
TTCTAGAAAT AATCATCCAC AAAATACTTC TGATAGTCAA AAAGAATGTA CCGATGGTAA CAAAGAAAAC TGTGGAGCAG CAACATCCCT
CTTAAATAAC TCTAGTAATA TTGCTCAAT AAATAAATTT GTTGTTTTAA TTCAGCAAC ACTTGTTTTA TCTTTT
    
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12 JAN 2024

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