

***Plasmodium falciparum*, Strain SenP051.02**

Catalog No. MRA-1173

Product Description: *Plasmodium falciparum* (*P. falciparum*), strain SenP051.02 (also referred to as P51.02) was isolated in 2002 from the venous blood of a patient with mild malaria in Pikine, Senegal, and adapted to culture at the Harvard School of Public Health, Boston, Massachusetts, USA. Strain SenP051.02 was deposited as genotype CACTGCGGTTTATCAATTAGCCTG (24-SNP bar code).

Lot¹: 61535349

Manufacturing Date: 20MAR2013

TEST	SPECIFICATIONS	RESULTS
Identification by Giemsa Stain Microscopy²	Blood-stage parasites present	Blood-stage parasites present
Antimalarial Susceptibility Profile (<i>in vitro</i>) Half-maximal Inhibitory Concentration (IC ₅₀) by SYBR green I [®] drug sensitivity assay ³ Chloroquine Artemisinin Quinine Cycloguanil Pyrimethamine Sulfadoxine	Report results Report results Report results Report results Report results Report results	31.1 ± 1.4 nM 5.6 ± 0.4 nM 78.3 ± 2.5 nM 499.8 ± 27.0 nM 16360 ± 1518.2 nM 338900 ± 57219 nM
Genotypic Analysis Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 760 base pairs) MSP2 PCR amplicon analysis ⁴	Consistent with <i>P. falciparum</i> ~ 600-900 base pair amplicon	Consistent with <i>P. falciparum</i> (Figure 1) ~ 900 base pair amplicon
Level of Parasitemia Pre-freeze ⁵ Ring-stage parasitemia Total parasitemia Post-freeze ⁶ Ring-stage parasitemia Total parasitemia	Report results ≥ 2% Report results ≥ 1%	4.11% 5.48% 1.43% 2.29%
Viability (post-freeze)⁷	Growth in infected red blood cells	Growth in infected red blood cells
Sterility (21-day incubation) Harpo's HTYE broth ⁸ , 37°C and 26°C, aerobic Tryptic Soy broth, 37°C and 26°C, aerobic Sabouraud Dextrose 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 DNA Detection by PCR	None detected	None detected

¹MRA-1173 was produced by cultivation of the deposited material 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 49 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.

²Blood-stage malaria parasites (rings, trophozoites, schizonts +/- gametocytes) were examined by microscopic Giemsa-stained blood smears of an *in vitro* human blood culture over 4 days.

³A 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>].

⁴Primer sequences and conditions for PCR are available upon request.

⁵Pre-freeze parasitemia was determined after 49 days post infection by microscopic counts of Giemsa-stained blood smears.

⁶Post-freeze parasitemia was determined after 4 days post infection by microscopic counts of Giemsa-stained blood smears.

⁷Viability was confirmed by examination of infected erythrocytes for parasitemia at 4 days post infection.

⁸Atlas, Ronald M. *Handbook of Microbiological Media*. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798.

Figure 1: MRA-1173 MSP2 Sequence

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AAGGTAATTA AAACATTGTC TATTATAAAT TTCTTTATTT TTGTTACCTT TAATATTAAA AATGAAAGTA AATATAGCAA
CACATTCATA AACAAATGCTT ATAATATGAG TATAAGGAGA AGTATGGCAA ATGAAGGTTC TAATACTAAT AGTGTAGGTG
CAAATGCTCC AAAAGCTGAT ACTATTGCTA GTGGAAGTCA AAGTAGTACA AATAGTGCAA GTACTAGTAC TACTAATAAT
AGAGAATCAC AAACACTACT TCCTACCGCT GCTGATACCC CTACTGCTAC AGAAAGTAAT TCACCTTCAC CACCCATCGC
TACTACAGAA AGTAATTCAC CTTACCACC CATCACTACT ACAGAAAGTA ATTCACCTTC ACCACCCATC ACTACTACAG
AAAGTTCAAG TTCTGGCAAT GCACCAAATA AAACAGACGG TAAAGGAGAA GAGAGTGAAA AACAAAATGA ATTAAATGAA
TCAACTGAAG AAGGACCCAA AGCTCCACAA GAACCTCAAA CGGCAGAAAA TGAAAATCCT GCTGCACCAG AGAATAAAGG
TACAGGACAA CATGGACATA TGCATGGTTC TAGAAAATAAT CATCCACAAA ATACTTCTGA TAGTCAAAAA GAATGTACCG
ATGGTAACAA AGAAAACGTG GGAGCAGCAA CATCCCTCTT AAATAACTCT AGTAATATTG CTTCAATAAA TAAATTTGTT
GTTTTAATTT CAGCAACACT TGTTTTATCT TTTGCCATA
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Date: 25 OCT 2017

Signature:



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