

***Plasmodium falciparum*, Strain 3D7<sup>attB</sup>**

**Catalog No. MRA-845**

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

**Product Description:**

*Plasmodium falciparum* (*P. falciparum*), strain 3D7<sup>attB</sup> was generated by the integration of the acceptor *attB* site, recognized by the mycobacteriophage Bxb1 integrase during site-specific integration into the nonessential glutaredoxin-like *cg6* gene located on chromosome 7 of *P. falciparum*, strain 3D7. MRA-845 was produced by cultivation of the BEI Resources seed lot 58319584 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% N<sub>2</sub>, 5% CO<sub>2</sub>, 5% O<sub>2</sub>) and monitored for parasitemia every 1 to 3 days for 42 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: 70062153**

**Manufacturing Date: 21SEP2023**

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TEST	SPECIFICATIONS	RESULTS
<b>Identification by Giemsa Stain Microscopy<sup>1</sup></b>	Blood-stage parasites present	Blood-stage parasites present
<b>Genotypic Analysis<sup>1</sup></b> Sequencing of Merozoite Surface Protein 2 (MSP2) gene (730 base pairs)	≥ 99% sequence identity to <i>P. falciparum</i> , strain 3D7 (GenBank: LN999943.1)	100% sequence identity to <i>P. falciparum</i> , strain 3D7 (GenBank: LN999943.1) (Figure 1)
<b>Antimalarial Susceptibility Profile (<i>in vitro</i>)<sup>1</sup></b> Half-maximal Inhibitory Concentration (IC <sub>50</sub> ) by SYBR Green I <sup>®</sup> drug sensitivity assay <sup>2</sup>		
Chloroquine	Report results	7.3 ± 0.5 nM
Artemisinin	Report results	22 ± 0.5 nM
Quinine	Report results	97.4 ± 6.7 nM
Cycloguanil	Report results	628.8 ± 101.8 nM
Pyrimethamine	Report results	38620 ± 1779.1 nM
Sulfadoxine	Report results	319100 ± 36819 nM
<b>Level of Parasitemia by Giemsa Stain Microscopy</b>		
Pre-freeze (42 days post-infection) <sup>3</sup>		
Ring-stage parasitemia	Report results	2.4%
Total parasitemia	≥ 2%	3.8%
Post-freeze (2 days post-infection) <sup>1</sup>		
Ring-stage parasitemia	Report results	2.9%
Total parasitemia	≥ 1%	3.7%
<b>Viability (2 days post-infection)<sup>1</sup></b>	Growth in infected red blood cells	Growth in infected red blood cells
<b>Sterility (21-day incubation)<sup>1</sup></b>		
Harpo's HTYE broth, 37°C and 26°C, aerobic <sup>4</sup>	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

