

Plasmodium falciparum, Strain 3D7-A 1.2Bind

Catalog No. MRA-1308

Product Description:

Plasmodium falciparum (*P. falciparum*), strain 3D7-A 1.2Bind was deposited to BEI Resources as a transgenic strain for inducible sexual conversion, and is derived from strain 1.2B, which is a subclone of the 3D7-A line. Strain 3D7-A 1.2Bind was generated through the integration of an inducible Cre recombinase (DiCre) cassette at the liver-specific protein-1 (*lisp1*) gene locus and a construct integrated upstream of the *pfap-2* gene that, upon inducing DiCre-mediated recombination with rapamycin, results in a constitutive *cam* promoter immediately upstream of the *pfap-2* gene coding sequence. **Note: The strain designation on the vial label is incorrect. The correct strain designation is 3D7-A 1.2Bind.** MRA-1308 was produced by cultivation of 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, 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 19 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: 70066718

Manufacturing Date: 14APR2024

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TEST	SPECIFICATIONS	RESULTS
Identification by Giemsa Stain Microscopy¹	Blood-stage parasites present	Blood-stage parasites present
Genotypic Analysis¹ Sequencing of Merozoite Surface Protein 2 (MSP2) gene (~ 760 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 (19 days post-infection) ² Ring-stage parasitemia Total parasitemia Post-freeze (4 days post-infection) ¹ Ring-stage parasitemia Total parasitemia	Report results ≥ 2%	2.3% 3.7%
Viability (4 days post-infection)¹	Growth in infected red blood cells	Growth in infected red blood cells
Sterility (14-day incubation)¹ Harpo's HTYE broth, 37°C and 26°C, aerobic ³ Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud 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 Contamination¹ DNA detection by PCR	None detected	None detected

¹Testing completed on vialled, post-freeze material

²Testing completed on bulk material prior to vialing and freezing

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

Figure 1: MRA-1308 MSP2 Sequence

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AAAAGATAAAACAAGTGTGGCTGAAATTAACAACAATTTATTTATTTGAAGCAATATTACTAGAGTTATTTAAGAGGGATGTTGCTGCTCCACAG
TTTTCTTTGTTACCATCGGTACATTCCTTTTACTATCAGAAGTATTTGTGGATGATATTTCTAGAACCATGCATATGTCCATGTTGTCCTGTAC
CTTTATCTCTGGTGCAGATTGTAATTCGGGGGATTAGTTTGTTCGGCTGTTGGAGCAGAATTTTTCAGCTTGTTCAGGTTGTGCAGTAGGACTTTT
AGTGTCTGCATCTTGAGTGGGTGGAACATTTGATTTAGTTTGTAGAGTCTTGTGGAACATTTGAGTTATTTTGTAGTTTCTTTATTTGCTTGATTTGGT
TCTTGAACCTTCTCCTTTACCTTTTGGATTTGTTTCGGCATTATTTATGATTTGGATTTTCTGAAGAGGTACTGGTAGATGCTTCTGCATCATTAGTAG
TTGTGGTAGTTGTGGTAGTTTGGTAGTTGTGGTAGTAGCGGGAGTACTTGAACCTCCCTCAGCATCTGCACCATTACCATCACCAGAACCAGCACT
ACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACTACCACCAGCACT
CTTCTCCTTATACTCATATTATAAGCATTTGTTTATGAATGTGTTGCTATATTTACTTTCATTTTTAATATTAAGGTAACAAAA
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