

Plasmodium berghei, Strain (ANKA) 676m1c1

Catalog No. MRA-868

Product Description: *Plasmodium berghei* (*P. berghei*), strain (ANKA) 676m1c1 is a genetically modified parasite derived from strain ANKA cl15cy1 following stable transfection with the pL1063 vector (BEI Resources MRA-852) containing the fusion gene of the green fluorescent protein (GFP) and luciferase. MRA-868 expresses GFP-luciferase constitutively during the whole life cycle of the parasite and does not contain a drug-selectable marker.

Lot¹: 64417015

Manufacturing Date: 19AUG2016

TEST	SPECIFICATIONS	RESULTS
Genotypic Analysis² Sequencing of Circumsporozoite Surface Protein 1 (CSP1) gene (~ 670 base pairs) CSP1 PCR amplicon analysis ³	≥ 99% sequence identity to <i>P. berghei</i> , strain ANKA (GenBank: LK023119) ~ 900-1100 base pair amplicon	100% sequence identity to <i>P. berghei</i> , strain ANKA (GenBank: LK023119) (Figure 1) ~ 1100 base pair amplicon
Phenotypic Analysis GFP expression	Positive	Pending
Level of Parasitemia Pre-freeze ^{4,5} Post-freeze ^{2,5}	Report results ≥ 1%	5.19% 4.42%
Viability^{2,6}	Growth in inoculated mice	Growth in inoculated mice

¹MRA-868 was produced by inoculation of BEI Resources MR-MRA-868 lot 59569705 into three ND4 Swiss Webster mice. Infection was allowed to progress for 7 days until parasitemia reached ≥ 5%. Infected blood was collected by orbital bleeding and used to inoculate 12 ND4 Swiss Webster mice. Infection was allowed to progress until parasitemia reached ≥ 5%. After 4 days, infected blood was collected by orbital bleeding to produce this lot.

²Testing completed on vial, post-freeze material.

³For primer sequences and conditions for PCR refer to Mauduit, M., et al. "A Role for Immune Responses against Non-CS Components in the Cross-Species Protection Induced by Immunization with Irradiated Malaria Sporozoites." *PLoS One* 4 (2009): e7717. PubMed: 19890387.

⁴Testing completed on bulk material prior to vialing and freezing.

⁵Parasitemia was determined after 4 days of infection by microscopic counts of Giemsa-stained blood smears.

⁶Viability was confirmed by examination of two Swiss Webster mice for parasitemia at 4 days post infection.

Figure 1: MRA-868 CSP1 Sequence

```

CATTATCCA TTTTACAAAT TTCAGTATCA ATATCTTCTA AGGTCAAATC TTCTGCTTTC TTATTTGAAC CTTTTCGTTT
TCTAACTCTT ATACCAGAAC CACATGTTAC GTTACATTGA GACCATTCCCT CTGTGATACT ATCCCTGATC TGTTTAACAA
ATTCTAGTAT TTTTTCCGCG CTTGGGATAT AAGAATCGTC ATTATTATTA TTTTGTGTTAT TGTTATTACC ACCTGGCTGT
GGTTGTGGCT GTGGTCGTGG CTGTGGTTGT GGCTGTGGCT GTGGTTGTGG CTGTGGCTGT GGTTGTGGCT GCGGCCGTGG
CTGTGGTTGT GGATTGTTAT TTCCTTGTGG TGGTGCTGGG TCATTTGGGT TTGGTGGTGG TGGGTCATTT GCGTTTGGTG
GTGCTGGGTC ATTTGGGTTT GGTGGTGGTG GGTCAATTTGC GTTTGGTGGT GCTGGGTCAT TTGCGTTTGG TGGTGCTGGG
TCATTTGCGT TTGGTGGTGC TGGGTCATTT GCGTTTGGTG GTGCTGGGTC ATTTGCGTTT GGTGGTGGTG GGTCAATTTGC
GTTTGGTGGT GGTGGGTCAT TTGGGTTTGG TGGTGGTGGG TCATTTGGGT TTGGTGGTGG TGGGTCATTT GGGTTTGGTG
GTGGTGGGTC ATTTGGGTTT GGTGGTGGTG G
    
```

07 MAY 2018

Program 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.

ATCC® is a trademark of the American Type Culture Collection.

You are authorized to use this product for research use only. It is not intended for human use.

