

Certificate of Analysis for NR-49713

Dengue Virus Type 1, UIS 998

Catalog No. NR-49713

Product Description: Clarified supernatant from *Aedes albopictus* mosquito larval clone C6/36 cells¹ infected with dengue virus type 1 (DEN-1), UIS 998

Passage History: C2/C3 (Prior to deposit at BEI Resources/BEI Resources); C# = Number of passages in C6/36 cells

Lot²: 99 Manufacturing Date: 25OCT2016

| TEST | SPECIFICATIONS | RESULTS |
|--|---|---|
| Identification by Infectivity Using C6/36 Cells ¹ | Report results | Syncytia formation |
| Identification by Indirect Fluorescent Antibody (IFA) Assay ³ | Fluorescence observed | Fluorescence observed |
| Sequencing of Species-Specific Region (884 nucleotides) | Consistent with DEN-1 | Consistent with DEN-14 |
| Titer by TCID ₅₀ Assay ^{5,6} in C6/36 Cells ¹ with IFA Readout ⁷ | Report results | 1.6 × 10 ⁷ TCID ₅₀ per mL |
| Amplification of Dengue Virus Sequence by RT-PCR | ~ 1000 bp amplicon | ~ 1000 bp amplicon |
| Sterility (21-day incubation) Harpo's HTYE broth ⁸ , 37°C and 26°C, aerobic Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C and 5% CO ₂ | No growth | No growth |
| Mycoplasma Contamination Agar and broth culture (14-day incubation at 37°C) DNA detection by PCR of extracted Test Article nucleic acid | None detected None detected | None detected None detected |

¹Aedes albopictus clone C6/36 cells (ATCC® CRL-1660™)

Date: 24 JUL 2017

Signature:

BEI Resources Authentication

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.

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²Grown in Eagle's Minimum Essential Medium containing Earle's Balanced Salt Solution, non-essential amino acids, 2 mM L-glutamine, 1 mM sodium pyruvate and 1.5 g/L of sodium bicarbonate (ATCC® 30-2003) supplemented with 2% fetal bovine serum (ATCC® 30-2020) for 7 days at 28°C with 5% CO₂.

³Using Anti-Dengue Virus Type I Antibody (Millipore MAB 8701) and Anti-Dengue Virus Complex Antibody (Millipore MAB 8705)

⁴Sequence information for DEN-1, UIS 998 is not available in the NCBI database; nucleotide sequence obtained for NR-49713, Lot No. 99 is ~ 99% identical to DENV-1/CO/BID-V3390/2007 (GenBank: GQ868569), a DEN-1 strain that was also isolated in Santander, Colombia in 2007.

⁵The Tissue Culture Infectious Dose 50% (TCID₅₀) endpoint is the 50% infectious endpoint in cell culture. The TCID₅₀ is the dilution of virus that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD₅₀) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID₅₀ provides a measure of the titer (or infectivity) of a virus preparation.

 $^{^68}$ days at 28°C and 5% CO $_2$

⁷Using Anti-Dengue Virus Type I Antibody (Millipore MAB 8701)

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