

***Rickettsia helvetica*, Strain C3**

**Catalog No. NR-51407**

**Product Description:**

*Rickettsia helvetica* (*R. helvetica*), strain C3 was isolated from triturated *Ixodes ricinus* nymphs from Switzerland in 1979.

**Lot: 70023108<sup>1</sup>**

**Manufacturing Date: 25JUL2019**

| TEST  | SPECIFICATIONS  | RESULTS   |
|---|---|---|
| Identification by Infectivity in Vero Cells <sup>2</sup>  | Cell rounding and sloughing   | Cell rounding and sloughing   |
| <b>Genotypic Analysis</b><br>Sequencing of <i>gltA</i> (citrate synthase) gene (~ 1140 base pairs)  | Consistent with <i>R. helvetica</i>   | Consistent with <i>R. helvetica</i> <sup>3</sup>  |
| <b>Titer by TCID<sub>50</sub> Assay in Vero Cells by Cytopathic Effect<sup>2,4,5</sup></b>  | Report results  | 2.8 × 10 <sup>5</sup> TCID <sub>50</sub> per mL   |
| <b>Sterility (21-day incubation)</b><br>Harpo's HTYE broth, 37°C and 26°C, aerobic <sup>6</sup><br>Trypticase soy broth, 37°C and 26°C, aerobic<br>Sabouraud broth, 37°C and 26°C, aerobic<br>Sheep blood agar, 37°C, aerobic<br>Sheep blood agar, 37°C, anaerobic<br>Thioglycollate broth, 37°C, anaerobic<br>DMEM with 10% FBS, 37°C and 5% CO <sub>2</sub> | No growth<br>No growth<br>No growth<br>No growth<br>No growth<br>No growth<br>No growth | No growth<br>No growth<br>No growth<br>No growth<br>No growth<br>No growth<br>No growth |
| <b>Mycoplasma Contamination</b><br>Agar and broth culture (14-day incubation at 37°C)<br>DNA detection by PCR of extracted Test Article nucleic acid  | None detected<br>None detected  | None detected<br>None detected  |

<sup>1</sup>NR-51407 was produced by infecting Vero cells with ATCC® VR-1375 lot 1DR and incubating in Dulbecco's Modified Eagle's Medium (DMEM) containing 4 mM L-glutamine, 4500 mg per L glucose, 1 mM sodium pyruvate, and 1500 mg per L sodium bicarbonate supplemented with 5% fetal bovine serum (ATCC® 30-2020) for 6 days at 34°C with 5% CO<sub>2</sub>.

<sup>2</sup>*Cercopithecus aethiops* kidney epithelial cells (Vero; ATCC® CCL-81™)

<sup>3</sup>Sequence information for *R. helvetica*, strain C3 citrate synthase (*gltA*) gene is not available in the NCBI database. Nucleotide sequence obtained for NR-51407 lot 70023108 shows 99.8% identity with *R. helvetica* citrate synthase (*gltA*) gene, complete cds (GenBank: KU310588.1) and ≥ 99% identity to numerous other *R. helvetica* strains.

<sup>4</sup>The Tissue Culture Infectious Dose 50% (TCID<sub>50</sub>) endpoint is the 50% infectious endpoint in cell culture. The TCID<sub>50</sub> is the dilution of organism that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD<sub>50</sub>) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID<sub>50</sub> provides a measure of the titer (or infectivity) of the organism preparation.

<sup>5</sup>Assay plates were incubated 8 days at 34°C with 5% CO<sub>2</sub>.

<sup>6</sup>Atlas, Ronald M. *Handbook of Microbiological Media*. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798

/Heather Couch/

Heather Couch

02 JAN 2020

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.

