

***Rickettsia helvetica*, Strain C3**

**Catalog No. NR-51407**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Rickettsiaceae*, *Rickettsia*

Species: *Rickettsia helvetica* (also known as Swiss agent)<sup>1,2</sup>

Strain: C3

Original Source: *Rickettsia helvetica* (*R. helvetica*), strain C3 was isolated from triturated *Ixodes ricinus* (*I. ricinus*) nymphs from Switzerland in 1979.<sup>1,2</sup>

*R. helvetica* is a member of the spotted fever group of Rickettsiae found in Europe and Asia.<sup>3,4</sup> *R. helvetica* is an intracellular Gram-negative pathogen that is transmitted to a human host via interaction with an infected tick (commonly *I. ricinus* but has also been isolated from *Dermacentor reticulatus*).<sup>3</sup> The tick acts as both a natural reservoir and a vector for disease transmission. Previously considered nonpathogenic, *R. helvetica* can cause a Mediterranean Spotted Fever-like illness, as well as perimyocarditis and meningitis.<sup>3,4</sup>

**Material Provided:**

Each vial contains approximately 1 mL of cell lysate and supernatant from *Cercopithecus aethiops* kidney epithelial cells infected with *R. helvetica*, strain C3, supplemented with 20% fetal bovine serum and 10% DMSO.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

**Packaging/Storage:**

NR-51407 was packaged aseptically in screw-capped plastic cryovials and is provided frozen on dry ice. The product should be stored at -130°C or colder, preferably in the vapor phase of a liquid nitrogen freezer. If liquid nitrogen storage facilities are not available, frozen cryovials may be stored at -70°C or colder for approximately one week. Freeze-thaw cycles should be avoided.

**Growth Conditions:**

Host: *Cercopithecus aethiops* kidney epithelial cells (Vero; ATCC® CCL-81™)

Growth Medium: 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, or equivalent.

Infection: Cells should be 60% to 80% confluent.

Incubation: 6 to 14 days at 34°C and 5% CO<sub>2</sub>

Cytopathic Effect: Cell rounding and sloughing

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Rickettsia helvetica*, Strain C3, NR-51407."

**Biosafety Level: 3**

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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**References:**

- Burgdorfer, W., et al. "*Ixodes ricinus*: Vector of a Hitherto Undescribed Spotted Fever Group Agent in Switzerland." Acta Trop. 36 (1979): 357-367. PubMed: 44100.
- Beati, L., et al. "Confirmation that *Rickettsia helvetica* sp. nov. is a Distinct Species of the Spotted Fever Group of

- Rickettsiae." Int. J. Syst. Bacteriol. 43 (1993): 521-526. PubMed: 8102245.
3. Nilsson, K., K. Elfving and C. Pahlson. "*Rickettsia helvetica* in Patient with Meningitis, Sweden, 2006." Emerg. Infect. Dis. 16 (2010): 490-492. PubMed: 20202426.
  4. Portillo, A., et al. "Rickettsioses in Europe." Microbes Infect. 17 (2015): 834-838. PubMed: 26384814.

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