

Mongolian Gerbils Subcutaneously Infected with *Acanthocheilonema viteae*

Catalog No. NR-50068

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Contributor:

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Manufacturer:

Filariasis Research Reagent Resource Center supported by Contract HHSN272201000030I, NIH-NIAID Animal Models of Infectious Disease Program

Product Description:

Classification: Onchocercidae, *Acanthocheilonema*

Species: *Acanthocheilonema viteae* (previously referred to as *Dipetalonema viteae*)

Strain: FR3

Original Source: *Acanthocheilonema viteae* (*A. viteae*), strain FR3 was obtained from TRS Laboratories in Athens, Georgia, USA.¹

Comments: *A. viteae* does not contain the *Wolbachia* endosymbiont like most filarial nematodes that cause human disease. *A. viteae* is often used as the negative control for experiments investigating the bacterium.¹

A. viteae is a filarial nematode that parasitizes rodents in Eastern Europe, Iran and North Africa. Natural hosts of *A. viteae* include the Libyan gerbil (*Meriones libycus*) and some species of the *Jaculus* and *Rhombomys* rodent genera. *A. viteae* can also infect experimental hosts including Golden Syrian LVG hamsters (*Mesocricetus auratus*), Mongolian gerbils (*Meriones unguiculatus*) and rats (*Mastomys natalensis*). In nature, third-stage infective larvae (L3) of *A. viteae* are transmitted to their mammalian host by the soft tick *Ornithodoros tartakovskyi*. *Ornithodoros moubata* can be used as an experimental vector for *A. viteae* in the lab. Once inside the mammalian host, the L3 develop into adult worms and generate microfilariae, which are ingested by the tick during its bloodmeal. The microfilariae develop inside the vector to L3, before migrating to the arthropod mouth parts for transmission to the mammalian host when the arthropod feeds.¹⁻⁴

Material Provided:

NR-50068 consists of up to 10 Mongolian gerbils obtained from Taconic or Charles River Laboratories and exposed to the FR3 strain of *A. viteae*.

Note: Specific questions regarding handling of *A. viteae* can be sent to Dr. Shelly Michalski at michalsk@uwosh.edu.

Packaging/Storage:

Mongolian gerbils subcutaneously infected with *A. viteae* are placed in transfer cages with adequate food and water source and shipped overnight. Upon arrival they should be immediately placed in cages at the recipient institute's animal facility.

Citation:

Acknowledgment for publications should read "The following reagent was provided by the NIH/NIAID Filariasis Research Reagent Resource Center for distribution by BEI Resources, NIAID, NIH: Mongolian Gerbils Subcutaneously Infected with *Acanthocheilonema viteae*, NR-50068."

Biosafety Level: 1

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/bmb15/index.htm.

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References:

1. Michalski, M. L., Personal Communication.
2. Morris, C. P., et al. "A Comprehensive, Model-Based Review of Vaccine and Repeat Infection Trials for Filariasis." Clin. Microbiol. Rev. 26 (2013): 381-421. PubMed: 23824365.
3. Lucius, R. and G. Textor. "*Acanthocheilonema viteae*: Rational Design of the Life Cycle to Increase Production of Parasite Material Using Less Experimental Animals." Appl. Parasitol. 36 (1995): 22-23. PubMed: 7780447.
4. Anderson, R. C. Nematode Parasites of Vertebrates: Their Development and Transmission. 2nd Ed. New York, NY: CABI Publishing, 2000.

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