Mongolian Gerbils Subcutaneously Infected with *Brugia malayi*

Catalog No. NR-48911

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Contributor:

Andrew R. Moorhead, D.V.M., M.S., Ph.D., Director and Principal Investigator, Filariasis Research Reagent Resource Center, Department of Infectious Diseases University of Georgia College of Veterinary Medicine Athens, Georgia, USA

Manufacturer:

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

Product Description:

Classification: *Onchocercidae*, *Brugia*
Species: *Brugia malayi*
Strain: FR3
Original Source: *Brugia malayi* (*B. malayi*), strain FR3 was originally obtained from researchers in Malaysia by Dr. John Schacher.[1,2]

B. malayi is a roundworm nematode and one of the three causative agents of lymphatic filariasis in humans.[3] Lymphatic filariasis, also known as elephantiasis, is a condition characterized by swelling of the lower limbs.

B. malayi is mosquito-borne filarial worm. Mosquitoes deposit infective third stage larvae (L3) on human skin. The larvae then penetrate and migrate to the lymphatic vessels where they develop into adult worms over several months. Development includes molting transitions into fourth stage larvae (L4) and fifth stage larvae (L5) to reach maturation. The matured female worms release large numbers of microfilariae into the host bloodstream. The microfilariae are ingested by a mosquito during a blood meal and penetrate the midgut and develop over a period of 10 to 14 days to L3. L3 are developmentally arrested in the mosquito. The process repeats when the mosquito's proboscis penetrates human skin.[4]

Material Provided:

NR-48911 consists of up to 10 Mongolian gerbils obtained from Taconic or Charles River Laboratory and exposed to the FR3 strain of *B. malayi*.

Packaging/Storage:

Mongolian gerbils subcutaneously infected with *B. malayi* 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 *Brugia malayi*, NR-48911."

Biosafety Level: 2

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.

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www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

References:

1. Ash, L. R. and J. M. Riley. "Development of Subperiodic *Brugia malayi* in the Jird, *Meriones Unguiculatus*, with Notes on Infections in Other Rodents." J. Parasitol. 56 (1970): 969-973. PubMed: 5504534.
2. Michalski, M. L., et al. "The NIH-NIAID Filariasis Research Reagent Resource Center." PLoS Negl. Trop. Dis. 5 (2011): e1261. PubMed: 22140585.
3. Simonsen, P. E. and M. E. Mwakitalu. "Urban Lymphatic Filariasis." Parasitol. Res. 112 (2013): 35-44. PubMed: 23239094.
4. Li, B. W., et al. "Transcription Profiling Reveals Stage- and Function-Dependent Expression Patterns in the Filarial Nematode *Brugia malayi*." BMC Genomics 13 (2012): 184. PubMed: 22583769.

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Fax: 703-365-2898