

***Aedes aegypti*, Strain Black Eye Liverpool, Infected with *Dirofilaria immitis*, Strain Missouri (Frozen)**

Catalog No. NR-48918

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Contributor:

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Manufacturer:

Filariasis Research Reagent Resource Center supported by Contract HHSN27220100030I, NIH-NIAID Animal Models of Infectious Disease Program¹

Product Description:

Classification: Onchocercidae, *Dirofilaria*

Species: *Dirofilaria immitis*

Strain: Missouri

Host: *Aedes aegypti*, strain Black Eye Liverpool

Original Source: *Dirofilaria immitis* (*D. immitis*), strain Missouri was originally obtained from TRS Laboratories in Athens, Georgia, USA.¹

D. immitis is a mosquito-borne filarial nematode that causes cardiopulmonary dirofilariasis in wild and domesticated canines and felines, and is the causative parasite of human pulmonary dirofilariasis.² Infection with *D. immitis* is commonly known as heartworm disease. In the case of canines, for which *D. immitis* is best adapted, mosquitoes deposit infective third stage larvae (L3) on the skin which penetrate the host. Maturation from stage L3 to L4 occurs between 3 and 12 days post-infection followed by a subsequent molt producing juvenile adult worms between 50 and 70 days post-infection. The first juvenile adult worms arrive in the pulmonary artery and right ventricle of the heart between 70 and 85 days post-infection and reach sexual maturity approximately 120 days post-infection. Adult females are able to produce and release microfilariae between 6 and 9 months post-infection, which can be taken up by mosquitoes during a blood meal.³

Aedes aegypti (*A. aegypti*) is an experimental vector for several filarial parasites, including *Wuchereria bancrofti* and *Brugia* species, that results in lymphatic filariasis when they are transferred to a human host during feeding.² It can also serve as the vector for the causative agent of canine heartworm (*D. immitis*).

Material Provided:

NR-48918 consists of up to 300 frozen *A. aegypti*, strain Black Eye Liverpool, infected with *D. immitis*, strain Missouri. If more material is required for your intended use, please contact BEI Customer Services at contact@beiresources.org to request the additional material.

Packaging/Storage:

NR-48918 is packaged in containers ranging from 2 mL microtubes to 50 mL conical vials, dependent on the number of mosquitoes requested. Mosquitoes will be flash frozen with liquid nitrogen or an ethanol/dry ice mixture and shipped in insulated boxes with approximately 2.5 kilograms of dry ice. The product should be stored at -20°C to -80°C or colder, depending on desired application.

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: *Aedes aegypti*, Strain Black Eye Liverpool, Infected with *Dirofilaria immitis*, Strain Missouri (Frozen), NR-48918.”

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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References:

1. Michalski, M. L., et al. "The NIH-NIAID Filariasis Research Reagent Resource Center." PLoS Negl. Trop. Dis. 5 (2011): e1261. PubMed: 22140585.
2. Chandy, A., et al. "A Review of Neglected Tropical Diseases: Filariasis." Asian Pac. J. Trop. Med. 4 (2011): 581-586. PubMed: 21803313.
3. Knopp, S., et al. "Nematode Infections: Filariasis." Infect. Dis. Clin. North Am. 26 (2012): 359-381. PubMed: 22632644.

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