

***Aedes aegypti*, Strain Black Eye Liverpool, Infected with *Dirofilaria immitis*, Strain JYD-24 (Frozen)**

Catalog No. NR-49458

This reagent is the tangible property of the U.S. Government.

For research use only. Not for human use.

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 Program¹

Product Description:

Classification: *Onchocercidae*, *Dirofilaria*

Species: *Dirofilaria immitis*

Strain: JYD-34

Host: *Aedes aegypti*, strain Black Eye Liverpool

Dirofilaria immitis (*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-49458 consists of up to 300 frozen *A. aegypti*, strain Black Eye Liverpool, infected with *D. immitis*, strain JYD-24. 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-49458 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 JYD-24 (Frozen), NR-49458.”

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

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.

ATCC[®] is a trademark of the American Type Culture Collection.

