

***Schistosoma haematobium*, Egyptian Strain, Infected Mice**

Catalog No. NR-46430

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Contributor and Manufacturer:

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Product Description:

Flatworm Classification: *Schistosomatidae*, *Schistosoma*

Species: *Schistosoma haematobium*

Strain: Egyptian

Host: *Mus musculus* (mouse)

Original Source: The Egyptian strain of *Schistosoma haematobium* (*S. haematobium*) was originally isolated circa 1950 from an unknown location in Egypt. The laboratory stock of the Egyptian strain of *S. haematobium* was later mixed with an isolate that was thought to be obtained from Arawash (Cairo) by the Naval Medical Research Unit III, in 1977. The current Egyptian strain of *S. haematobium* maintained at BRI is from a mixture of the 1977 stock with another Egyptian isolate obtained in the 1980s¹.

Schistosoma haematobium is a species of trematode worm which causes the chronic parasitic disease Schistosomiasis. Worldwide, more than 200 million people are infected with schistosomiasis and nearly 700 million are at risk, primarily in areas with poor sanitation that lack access to safe drinking water.² *S. haematobium* causes urinary and urogenital schistosomiasis and it is linked to bladder cancer.

Infection occurs through contact with larval-stage schistosomes (cercariae) that are released by freshwater snails. Upon exposure to infested water, these larvae penetrate human skin and travel through blood vessels to the liver where they mature. Mature *S. haematobium* parasites deposit eggs in the bladder. Some of these eggs are then passed through human urine into water to re-infect the snail host and continue the parasite's life cycle. Schistosome eggs that remain in the human body cause an immune response and damage to internal organs.² In rodent models, urinary schistosomiasis occurs to a much lesser extent. Eggs are normally deposited in the liver and intestines³. Adult worms can be isolated by perfusion of the portal venous system³. Mice infected with *S. haematobium* will have lower worm and egg recovery compared to hamsters infected with the parasite (NR-21966) and mice infected with *S. mansoni* (NR-21963).

Material Provided:

NR-46430 consists of Swiss Webster or BALB/c mice obtained from Taconic or other reputable vendors that have been exposed to the Egyptian strain of *S. haematobium*. Health reports from Taconic/other vendors and Sentinel Health reports from the animal facility of BRI are available upon request.

Packaging/Storage:

S. haematobium infected mice are placed in transfer cages with adequate food and water sources and shipped overnight. Upon arrival they should be immediately placed in cages at the recipient institute's animal facility.

Experimental Procedures:

Common experimental procedures may include collection of *S. haematobium* miracidia from tissues and isolation of adult worms from the portal venous system. These procedures and more are described in Tucker et al.³ and also on the NIH-NIAID Schistosomiasis Resource Center website (<http://www.schisto-resource.org>).

Citation:

Acknowledgment for publications should read "The following reagent was provided by the NIAID Schistosomiasis Resource Center for distribution through BEI Resources, NIAID, NIH: *Schistosoma haematobium*, Egyptian Strain, Infected Mice, NR-46430."

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/bmbl5/index.htm.

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References:

1. Tucker, M. S., Personal Communication.
2. Roberts, L. and J. Janovy. Foundations of Parasitology. 5th ed. Dubuque, Iowa: Wm. C. Brown Publishers; 1996.
3. Tucker, M. S., et al. "Schistosomiasis." Curr. Protoc. Immunol. 103 (2013): Unit 19.1. PubMed: 24510597.

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