

***Schistosoma haematobium*, Egyptian Strain, Egg-Injected (Bladder Wall) BALB/c Mice**

Catalog No. NR-49104

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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* (BALB/c mouse)

Original Source: The bladder walls of female BALB/c mice were injected with *Schistosoma haematobium* (*S. haematobium*), Egyptian strain, eggs. Bladder wall injection ensures deposition of the parasite's life stage of interest in the host tissue of interest.

Comments: The Egyptian strain of *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* that is maintained at BRI is from a mixture of the 1977 stock with another Egyptian isolate obtained in the 1980s.¹

S. haematobium is a species of trematode worm which causes the chronic parasitic disease Schistosomiasis, in particular, urinary and urogenital schistosomiasis which are linked to bladder cancer.² 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. There are a variety of symptoms that result from the infection but mortality and morbidity are ultimately attributed to the host immune response against the eggs that remain in the human body.^{2,3}

The mouse model of urogenital schistosomiasis has historically failed due to the inability of the cercariae to mature and migrate to the bladder in the mouse. When the eggs are directly injected into the bladder wall the barriers to oviposition in the mouse bladder are circumvented.³

Note: Mice infected with *S. haematobium* will have lower worm and egg recovery rates compared to hamsters infected with *S. haematobium* (NR-21966) and mice infected with *S. mansoni* (NR-21963).

Common experimental procedures may include collection of bladders and sera for downstream applications. Additional information regarding procedures and applications is described in Fu et al.³

Material Provided:

NR-49104 consists of a female BALB/c mouse that has had its bladder wall injected with *S. haematobium* eggs. Female BALB/c mice are obtained from Charles River and health reports from Charles River and sentinel health reports from the animal facility of BRI are available upon request.

Packaging/Storage:

S. haematobium injected BALB/c 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.

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, Egg-Injected (Bladder Wall) BALB/c Mice, NR-49104."

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. Tucker, M. S., Personal Communication.
2. Roberts, L. and J. Janovy. Foundations of Parasitology. 5th ed. Dubuque, Iowa: Wm. C. Brown Publishers; 1996.
3. Fu, C.-L., et al. "A Novel Mouse Model of *Schistosoma haematobium* Egg-Induced Immunopathology." PLoS Pathog. 8 (2012): e1002605. PubMed: 22479181.

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