

***Schistosoma haematobium* Exposed  
Golden Syrian LVG Hamsters**

**Catalog No. NR-21966**

**For research use only. Not for human use.**

**Contributor and Manufacturer:**

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**Product Description:**

Flatworm Classification: *Schistosomatidae*, *Schistosoma*

Species: *Schistosoma haematobium*

Strain: Egyptian

Host: *Mesocricetus auratus* (Golden Syrian LVG Hamster)

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 to produce the current Egyptian strain of *S. haematobium*.<sup>1</sup>

*S. haematobium* is a species of trematode worm which causes the chronic parasitic disease Schistosomiasis. Worldwide, more than 200 million people are infected and nearly 700 million are at risk, primarily in areas with poor sanitation that lack access to safe drinking water.<sup>2</sup>

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.<sup>2</sup>

**Material Provided:**

Male Golden Syrian LVG hamsters from Charles River Laboratory that have been exposed to *S. haematobium*.

**Packaging/Storage:**

*S. haematobium* exposed Golden Syrian LVG hamsters 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.

**Collection of *Schistosoma miracidia*:<sup>3</sup>**

1. Euthanize hamster by intraperitoneal injection of 0.3 mL sodium pentobarbital (65 mg/mL) with heparin (10000 units/mL).
2. Remove cecum and intestines. Flush clean with 1.2% NaCl. Most of the eggs will be in the walls of the cecum and large intestine.
3. Cut cleaned cecum and intestines into small pieces. Blend in filtered tap water that has been aerated for 2 to 3 days (conditioned water) for 20 seconds in a Waring blender. Centrifuge homogenate for 5 minutes (300 x g) at room temperature.
4. Pour off supernatant. Add 5 mL conditioned water and shake tube vigorously for several seconds. Dilute suspension at least 100-fold in conditioned water. For optimal hatching, use conditioned water between 26°C and 28°C.
5. Place suspension in darkened side-arm flask. Make sure that water fills the unpainted sidearm.
6. Direct a light source at exposed unpainted part of side arm. Miracidia will swim to this area after hatching and collect within the unpainted side arm within 10 to 20 minutes.
7. Remove miracidia from the side arm using a fine-tipped Pasteur pipette and place in a Petri dish that contains conditioned water.

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Schistosoma haematobium* Exposed Golden Syrian LVG Hamsters, NR-21966".

**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, 2007; see [www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

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**References:**

1. F. A. Lewis, Personal Communication.
2. Roberts, L. and J. Janovy. Foundations of Parasitology. 5th ed. Dubuque, Iowa: Wm. C. Brown Publishers; 1996
3. Lewis, F. "Schistosomiasis." Curr. Protoc. Immunol. Chapter 19 (2001): Unit 19.1. PubMed: 18432750.

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