

***Schistosoma japonicum*, Philippine Strain,
Exposed Swiss Webster Mouse**

Catalog No. NR-34794

For research use only. Not for human use.

Contributor and Manufacturer:

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Product Description:

Flatworm Classification: *Schistosomatidae*, *Schistosoma*

Species: *Schistosoma japonicum*

Strain: Philippine

Host: *Mus musculus* (mouse)

Original Source: The Philippine strain of *Schistosoma japonicum* (*S. japonicum*) was isolated from Leyte, Philippines in 1969.

Comment: The laboratory stock of the Philippine strain of *S. japonicum* was later mixed with an isolate provided by Dr. Sano, Hamamatsu University, Japan in 1977 to produce the current Philippine strain of *S. japonicum*.¹

S. japonicum is a species of trematode worm which causes the chronic parasitic disease schistosomiasis in China and the Far East, in areas with poor sanitation that lack access to safe drinking water.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. japonicum* parasites deposit eggs in the intestine. Some of these eggs are then passed through human feces 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. *S. japonicum* is the most infectious and pathogenic of the three species of schistosomes known to cause schistosomiasis, due to the large number of eggs that it produces.²

Material Provided:

NR-34794 consists of female Swiss-Webster mice obtained from Taconic or Charles River Laboratory and exposed to the Philippine strain of *S. japonicum*.

Packaging/Storage:

S. japonicum, Philippine strain, exposed Swiss Webster mice 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*:³

1. Euthanize mouse by intraperitoneal injection of 0.3 mL sodium pentobarbital (65 mg/mL) with heparin (10000 units/mL).
2. Remove liver and small and large intestines. Rinse tissues in 1.2% NaCl. If using intestines, remove and wash with 1.2% NaCl repeatedly.
3. Blend liver/intestines 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 Pasture 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 japonicum*, Philippine Strain, Exposed Swiss Webster Mice, NR-34794".

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 <http://www.cdc.gov/biosafety/publications/bmbL5/index.htm>.

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References:

1. F. A. Lewis, Personal Communication.
2. Roberts, L. and G. D. Schmidt. Foundations of Parasitology, 7th ed. Dubuque, Iowa: Wm. C. Brown Publishers, 2005.
3. Lewis, F. "Schistosomiasis." Curr. Protoc. Immunol. Chapter 19: (2001): Unit 19.1. PubMed: 18432750.

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