

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

Catalog No. NR-21969

For research use only. Not for human use.

Contributor and Manufacturer:

Fred A. Lewis, Head Schistosomiasis Laboratory, Biomedical Research Institute, Rockville, MD (NIH-NIAID Contract HHSN2722010000051)

Product Description:

Flatworm Classification: *Schistosomatidae*, *Schistosoma*

Species: *Schistosoma japonicum*

Strain: Chinese

Host: *Mus musculus* (mouse)

Original Source: The Chinese strain of *Schistosoma japonicum* (*S. japonicum*) was isolated in 1928 from An-huei Province in China.

Comment: The laboratory stock of the original Chinese strain of *S. japonicum* was later mixed with a second isolate from An-huei Province in 1977 to produce the current Chinese strain.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:

Female Swiss-Webster mice obtained from Taconic or Charles River Laboratory and exposed to the Chinese strain of *S. japonicum*.

Packaging/Storage:

S. japonicum, Chinese 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 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 japonicum*, Chinese Strain, Exposed Swiss Webster Mice, NR-21969".

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>.

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. 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.

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

