

Exposure of LVG golden Syrian hamsters to *Schistosoma haematobium* cercariae

Authors: Yung-san Liang, PhD , Mei-Shei Su and Fred Lewis, PhD

Introduction

The abdomen is the preferred site for percutaneous exposure with *S. haematobium* in hamsters

Materials

Cercarial shed from patent *B.truncatus*
IACUC -approved sedatory and/or anesthetic drug (Schedule III)
Animal clippers, fitted with a #40 blade
P1000 pipettor and tips (capacity 0.2-1.0mL)
Artificial Pond H2O (water)

Procedure

- Anesthetize the hamster with an intraperitoneal injection of drug
- Shave the abdomen with animal clippers.
- Moisten the abdomen with clean gauze soaked with water.
- Draw up a pre-determined number of cercariae and express the suspension onto the hamster's abdomen. This procedure allows for a good estimate of the number of cercariae applied to the skin.
- Allow 20-30 minutes for the cercariae to penetrate.

- Keep the hamster warm throughout the procedure with a warming lamp or heated pad.
- Return the hamster to its cage once it recovers from the anesthesia.

Comments

It is difficult to assess accurately the percentage of cercariae that penetrate the abdominal skin once they are applied; however, when the hamsters are perfused, one can expect that about 30% of the estimated number of cercariae applied to the skin to be recovered as adult worms (at 3½ – 4 months post-exposure)

References

- 1.Liang, Y-S., Bruce, J.I., and Boyd, D.A. 1987. Laboratory cultivation of schistosome vector snails and maintenance of schistosome life cycles. Proceedings of the First Sino-American Symposium 1: 34-48.
- 2.Tucker, M. S., Karunaratne, L. B., Lewis, F. A., Frietas, T. C., and Liang, Y-S. 2013. Schistosomiasis, in Current Protocols in Immunology 19.1.1-19.1.57, John Wiley and Sons, Inc., (R. Coico, Ed). Published online November 2013 in Wiley Online Library (wileyonlinelibrary.com). doi: 10.1002/0471142735.im1901s103.

For more technical information, contact Sarah Li: sli@afbr-bri.com