

Histopathological confirmation of disseminated larvae (iL3) of *Strongyloides ratti* in an immunosuppressed Wistar rat

ABSTRACT

Human strongyloidiasis research requires a large supply of *Strongyloides stercoralis*. This can be achieved through in vivo maintenance of *Strongyloides stercoralis* in *Meriones unguiculatus*, but isolating a large quantity of *Strongyloides stercoralis* to establish the colony from an infected patient is too difficult to achieve. Hence, *Strongyloides ratti* have been used as a model in human strongyloidiasis research. This study describes a successful establishment and maintenance of *Strongyloides ratti* infection in experimentally immunosuppressed Wistar rats. Large quantities of filariform (iL3) larvae of *Strongyloides ratti* for research related to human strongyloidiasis have been harvested following this protocol. Molecular detection method based on PCR using species specific primers was used to confirm the species of the harvested infective larvae (iL3). Additionally, the identification of histopathological lesions confirmed the presence of infective larvae (iL3) in the liver and lungs as a result of an increased parasite burden due to hyperinfection and disseminated disease. This pathological presentation was found to be similar to that reported in *Strongyloides stercoralis*-infected immunocompromised human subjects.

Keyword: Histopathological confirmation of disseminated larvae (iL3); *Strongyloides ratti*; *Strongyloides stercoralis*; Wistar rat