

Serological cross-reactivity between *Strongyloides venezuelensis* and *Syphacia muris* in Wistar rats (*Rattus norvegicus*)

José Eduardo Neto de Sousa, Edson Fernando Goulart de Carvalho, Marcelo Arantes Levenhagen, Lucas Silva de Faria, Maria do Rosário Gonçalves-Pires, Julia Maria Costa-Cruz

Laboratório de Diagnóstico de Parasitoses, Instituto de Ciências Biomédicas, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais.

jnetodesousa@yahoo.com.br

One of the problems frequently faced in laboratory facilities is the possibility of the natural parasitic infection of laboratory animals, which can interfere with biomedical research results. The present study aimed to evaluate cross-reactivity among serum samples from Wistar rats (*Rattus norvegicus*) naturally infected with *Syphacia muris* and experimentally infected with *Strongyloides venezuelensis*. Forty rats were divided into four groups of ten animals each. Parasite load was evaluated by quantifying the adult worms from both helminthes species recovered from the intestines and the *S. venezuelensis* eggs eliminated in feces. Serological cross-reactivity by parasite-specific IgG detection was tested via enzyme linked immunosorbent assay (ELISA), immunofluorescence antibody test (IFAT) and immunoblotting. The results demonstrated that the quantity of *S. venezuelensis* eliminated eggs and parthenogenetic females decreased significantly in cases of co-infection with *S. muris*. ELISA revealed 100% cross-reactivity of serum samples from both species against the opposing antigen. IgG cross-reactivity was confirmed by IFAT using tissue sections of *S. venezuelensis* larvae and adult *S. muris*. Immunoblotting showed that IgG antibodies from the sera of animals infected with *S. muris* recognized eight antigenic bands from *S. venezuelensis* saline extract and that IgG antibodies from the sera of animals infected with *S. venezuelensis* recognized seven bands from *S. muris* saline extract. These results demonstrate the serological cross-reactivity between *S. muris* and *S. venezuelensis* in infected rats. Thus, rats should be periodically evaluated since infections with *S. muris* may compromise and interfere the experimental results of *S. venezuelensis*.

Keywords: Cross-reactivity; Serology; *Strongyloides venezuelensis*; *Syphacia muris*.

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