

Molluscs as well as all other invertebrates rely on innate immune response only. Their internal defense system is capable of destroying most pathogens. However, there are some exceptions, e.g. some snails serve as intermediate hosts for some trematodes. Trematodes are able to develop inside these snails due to intervention in the snail internal defense system.

The submitted thesis describes hemocyte activities of two lymnaeid snails, *Lymnaea stagnalis* and *Radix lagotis*, and the influence of *Trichobilharzia regenti* infection on *R. lagotis* hemocytes.

Hemocytes of both species exposed to various chemicals produced different amounts of H₂O₂ and NO. The response varied between both lymnaeid species.

The amount of circulating hemocytes was elevated in *R. lagotis* snails due to *T. regenti* infection. However, the infection attenuated hemocyte activities monitored by us. Hemocyte basal NO production was decreased as well as phagocytosis of bacteria, cell adherence and pseudopodia formation. Toxicity of *L. stagnalis* plasma against *T. regenti* miracidia was also described.

Mechanisms used by trematodes to interact with the snail internal defense system will help us to understand why one species is suitable for the development of the trematode whereas another closely related species kills it.