

Abstract

Almost all trematodes use snails as the intermediate host in their life cycles. To survive within the host, they have to efficiently avoid defense reactions of its immune system. The most important effector cells, haemocytes, produce reactive oxygen species with the first molecule known as superoxide radical. Various snail species produce different levels of these radicals in relation to the compatibility with the invasive trematode species. The parasite decreases the levels of toxic radicals by using antioxidant enzymes including superoxide dismutase which catalyzes transformation of superoxide radical into hydrogen peroxide. This dismutation reaction is the first step during the oxidative burst and likely influences survival of trematodes within the host. Based on the current knowledge the production and elimination of superoxide radical in relation to the compatibility between snails and trematodes have been described thoroughly for a few models such as for example *Biomphalaria glabrata*-*Schistosoma mansoni*. However, this interaction appears to play a key role and, therefore, it deserves more attention in another models as well.

Key words: trematodes, snails, compatibility, haemocytes, oxidative burst, antioxidant enzymes, superoxide dismutase, superoxide radical