

Abstract

Most economic losses in ruminant are associated with gastrointestinal parasite infections. *Haemonchus contortus* is one of the most pathogenic parasites of small ruminants (sheep, goat). *H. contortus* exhibits considerable adaptability to unfavourable conditions and its occurrence is world-wide. Today, the treatment of haemonchosis is complicated due to resistance of *H. contortus* to common anthelmintics, especially those with benzimidazole structure. Biotransformation enzymes, that protect parasite against toxic effect of anthelmintics, may contribute to development of resistance. The aim of this project was to study the biotransformation of benzimidazole anthelmintic flubendazole in *H. contortus* and to find out biotransformation of other model xenobiotics. The results showed that cytosolic NADPH-dependent enzymes of *H. contortus* deactivate flubendazole via reduction of its carbonyl group. Substantial reduction of other xenobiotics was also found. Significant activity of glutathion S- tranferases may aid to anthelmintics further deactivation. The new information about biotransformation enzymes of parasites contribute to understanding of mechanism of resistance.