

## ABSTRACT

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Barber's pole worm (*Haemonchus contortus*, from the family *Trichostrongylidae*) is a nematode attacking the mucosa of the gastrointestinal tract of small ruminants. Infections caused by this nematode are manifested by anemia and edema. Anthelmintics, drugs against parasitic worms, are used for prophylaxis and treatment of these infections. However, a huge problem is the worldwide growing resistance to all available anthelmintics. Therefore, it is very important to study the possible mechanisms of resistance and factors that contribute to the development of resistance. In recent years, one of the mechanisms of resistance to anthelmintics has been found to be increased expression and activity of some enzymes of metabolizing drugs.

This work dealt with the monitoring of changes in the expression of selected genes from the detrinth of Dehydrogenas/Reductas with a short chain (SDR). Expression of 20 SDR genes was determined using the quantitative PCR method in all developmental nematode stages (eggs, larvaes, adults) of *H. Contortus*, compared between the ISE (Inbread Susceptible Edinburgh, MHCO3) and IRE (Inbread Resistant Edinburgh, MHCO5) and of both sexes. The normalization of the results was performed using the GAPDH and AMA reference genes. The results showed significant changes in the expression of SDR enzymes during ontogenesis, the highest expression of SDR was observed in larvals. In adults, females showed higher expression than males. An increased expression of several SDRs was observed in the IRE resistant stem strain compared to the sensitive ISE strain. Some of these SDRs could play a role in the resistance of nematodes on anthelmintics with a carbonyl group.