ABSTRACT

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Title of diploma thesis: The assay of peroxidases activities and their comparison in various helminths

The aim of diploma thesis was to search for simple methods for determination of peroxidases activities, to choose a suitable method, optimize it and compare it with the method used in the workplace. The 3,3′,5,5′-tetramethylbenzidine (TMB) has been used as a substrate in selected technique. I have optimized this method and compared it with the formely applied method using substrate O-phenylenediamine dihydrochloride (OPD). Method working with TMB is more precise, more comfortable but more expensive than method using OPD. I have applied both of methods for assay of peroxidases activities in the subcellular fractions of the two species of helminths: *Dicrocoelicum dendriticum* and *Haemonchus contortus*. I found out that activities of peroxidases are higher at *Haemonchus contortus* than at *Dicrocoelicum dendriticum*. Different activities of peroxidases were observed in the subcellular fractions of the *Haemonchus contortus* strains sensitive and resistant to anthelmintics. The *ex vivo* contact of *Dicrocoelicum dendriticum* with anthelmintics (albendazole and albendazole sulfoxide) influenced the activity of peroxidases. From tested inhibitors of peroxidases, the mercaptosuccinate inhibited peroxidases at helminths whereas the salicylhydroxamic acid had no effect.