

ABSTRACT

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Title of diploma thesis: *In vitro* cultivation of tapeworm *Hymenolepis diminuta* – 2

Aim of this diploma thesis was to obtain cyclicercoids of the rat tapeworm (*Hymenolepis diminuta*), excyst them and find out the conditions for the maximal *in vitro* incubation period. As the intermediate host mealworm beetle (*Tenebrio molitor*) infected by the rat feces containing tapeworm eggs was used. Excystment was done using L-cystein and sodium tauroglycocholate. Excysted larvae were cultured *in vitro* (37 °C, 5 % CO₂) in RPMI 1640 medium enriched with other substances chosen according previously published methods. Mainly sheep, mouse or rat liver extracts eventually in combination with yeast extract and sheep bile were used. The effect of tested substances on the cultivation was evaluated by measuring of the tapeworm's growth. The best effect on the grow of the tapeworms was observed using medium containing serum, yeast extract and sheep liver extract where tapeworms achieved length of 1561 µm after 16 days of incubation. The further growth was limited by appearance of pathologic formations.