Mesocestoides corti: Morphological features and glycogen mobilization during in vitro differentiation from larva to adult worm

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Mesocestodes corti has the capacity to develop from the tetrathyridium (larva) stage to adult worm in vitro by trypsin and serum stimulation. Consequently, it has been used as an experimental model system for studying cestode development, host-parasite relationships and anthelmintic drugs. We describe morphological features in 5 different developmental stages of M. corti obtained in vitro, including larvae from the peritoneal cavity of infected mice, trypsin- and serum-stimulated larvae, elongated parasites as well as segmented and mature worms. It is unambiguously confirmed that sexually mature worms are obtained as a result of this in vitro process of differentiation. Defined cellular regions are present in all stages of development studied, some of them surrounded by a basal lamina. Glycogen is present in the larvae obtained from the mouse peritoneal cavity and in parasites encapsulated in the mouse host liver. Glycogen distribution in the parasite changes on trypsin and serum stimu