

Complete Life Cycle of *Eimeria tenella* (in vitro)

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E. tenella causes cecal coccidiosis in the domestic fowl and is responsible for considerable losses in the poultry industry. Important prerequisites for the successful in vitro cultivation of *E. tenella* in primary chick kidney cells (PCKC) are optimal conditions for the controlled growth of PCKC and the coccidian parasite, i.e. the use of suitable nutrient media, concentrations and quality of fetal calve serum as well as the production of ultrapure sporozoite suspensions (Hofmann J and Raether W 1990. Improved techniques for the in vitro cultivation of *Eimeria tenella* in primary chick kidney cells. Parasitol 76: 479-486). By means of these improved techniques, for the first time it has been possible to film the complete life cycle of *E. tenella* in vitro. Motion pictures of all endogenous and exogenous developmental stages of the parasite are demonstrated: the invasion of sporozoites into host cells and

their further development to schizonts of the 1st and 2nd (3rd) generation by multiple asexual reproductions (schizogony), the maturation of female and male gamonts to respective gametes (gamogony), and finally the formation of zygotes (one celled sporonts = young unsporulated oocysts). This is followed by the presentation of the exogenous phase of life cycle (sporogony), i.e. the process by which a one celled sporont within the oocyst wall undergoes a series of divisions to form sporozoites within sporocysts.

(**Technical details** : Video, VHS, color, 16 min, language version, German and English; producer: Institut für den Wissenschaftlichen Film, gem. GmbH (IWF), Nonnenstieg 72, D-3705 Göttingen, www.iwf.de; e-mail reinhold.schumann@iwf.de; published 1997, order no.: C 1989)