

Toxoplasma gondii in Tissue Culture: Multiplication Rates, Degrees of Purity, Cost-benefit Relation

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Trophozoites of *Toxoplasma gondii* were grown under various conditions in HEp-2 tissue culture, and multiplication rates, degrees of purity and cost-benefit relation were investigated. In contrast to the conventionally used method of infecting cell monolayers a better yield and higher purity of *Toxoplasma* was obtained by the immediate infection of trypsinized host cells. The addition of polycationic polypeptides (poly-L-lysine and poly-L-histidine) did not result in an increased *Toxoplasma* multiplication rate. Trophozoites were separated from host cell debris by three different methods (sintered glass filtration, filtration through glass wool and through filter membranes). The best way proved to be the filtration through 8 µm-porosity polycarbonate filters. Costs of in vitro culture were calculated and compared with those of *Toxoplasma* culture in mice; only minimal differences in costs could be found. Due to the high multiplication rates, considerably good degrees of purity and a satisfactory cost-benefit rate the tissue culture represents a reasonable alternative to mice, especially since recently animal experiments have been restricted in some countries.

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