

Macronuclear chromatin extrusion during cyst formation of *Colpoda cucullus*

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During resting cyst formation of *Colpoda cucullus*, a part of the macronuclear chromatin mass is extruded into the cytoplasm about 10 hours after encystment is induced. The process of this nuclear event, called chromatin extrusion, was observed by acridine orange/Hoechst 33342 double staining. The extruded chromatin mass gradually reduced in size, acidified by fusing with a lysosome-like structure, and finally disappeared within 24 hours. Agarose gel electrophoresis of genomic DNA showed that DNA was fragmented during digestion of the extruded chromatin mass. Although encystment could be induced in any growth phase, chromatin extrusion was observed only when cells in the logarithmic growth phase were induced to encyst. However, the chromatin extrusion was not observed during encystment of four cells which had been just produced by successive cell divisions. The results suggest that the chromatin extrusion is the process by which extra chromatin produced during S phase of the cell cycle is eliminated prior to the formation of resting cysts.