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**EFFECT OF TRITON X-100 ON *TETRAHYMENA PYRIFORMIS* CYTOSKELETON
A CONFOCAL MICROSCOPY ANALYSIS**Nicolina Dias^a, Renato A. Mortara^b and Nelson Lima^a^a Centro de Engenharia Biológica - IBQF, Universidade do Minho, Campus de Gualtar,
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Non-ionic surfactants such as Triton X-100 have been widely used in industrial processing and in household products due to their detergency, wetting and foaming properties, which give them an economic importance worldwide. However, surface-active agents interact with eukaryotic cell membranes leading to biological damage at high concentrations.

Due to their sensitivity to environmental alterations protozoa have been proposed as biological indicators of water pollution. The ciliate protozoan *Tetrahymena pyriformis* was used in this work as a model organism. Immunolabeling of cells with antibodies against cytoskeletal main proteins, such as actin and acetylated α -tubulin, was used to study cytoskeletal alterations after surfactant exposure.

Lack of fluorescence on the oral apparatus of most cells seemed to indicate the redistribution of actin due to the surfactant exposure and large unstained areas in the central part of the cytoplasm were observed. Following exposure to Triton X-100, cells started to round and the nuclei moved to the cell periphery. Double immunolabeling was used to observe simultaneously the effect of Triton X-100 on the ciliary system and on the actin network. Yellow labeling, which was only observed in control cells indicates co-localization of actin and acetylated α -tubulin.

An analysis of *T. pyriformis* cytoskeleton could be a valuable complement to other biochemical or morphological analysis in order to the *in vitro* cytotoxicity assessment of Triton X-100 and other surface-active agents.

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