

Nanoparticles on Biological Biomarkers Models: *Paramecium Tetraurelia* and *Helix aspersa*

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Abstract : Currently in toxicology, use of alternative models permits to understand the mechanisms of toxicity at different levels of cells. Objectives of our research concern the determination of NPs ZnO, TiO₂, AlO₂, and FeO₂ effect on ciliate protist freshwater *Paramecium* sp and *Helix aspersa*. The result obtained show that NPs increased antioxidative enzyme activity like catalase, glutathione -S-transferase and level GSH. Also, cells treated with high concentrations of NPs showed a high level of MDA. In conclusion, observations from growth and enzymatic parameters suggest on one hand that treatment with NPs provokes an oxidative stress and on the other that snail and paramecium are excellent alternatives models for ecotoxicological studies.

Keywords : NPs, GST, catalase, GSH, MDA, toxicity, snail and paramecium

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