

Nanotechnology Congress & Expo

August 11-13, 2015 Frankfurt, Germany

Daily used nanoparticles increases the incidence of cancer

Hanan Ramadan Hamad Mohamad
Cairo University, Egypt

Nanoparticles are widely used in a wide variety of applications due to their high stability, resistance, and photocatalytic properties. Titanium dioxide (TiO₂) nanoparticles are commercially used in a variety of consumer products e.g., toothpastes, sunscreens, cosmetics, food products, medications and wastewater treatment, that increasing daily human exposure to them. Therefore, TiO₂ nanoparticles persistence and its effect on cancer incidence were investigated in this study. Significant elevations in tail length, % DNA damage and tail moment by nano-TiO₂ particles during the experimental period evidenced the persistence of DNA damage. This was further confirmed by the appearance of ladderized fragmented and smeared genomic DNA. Moreover, the incidence in p53 mutations was increased by increasing the experimental period in nano-TiO₂ treated groups. All these could be attributed to the persisted titanium accumulation and no clearance with time. It can be concluded that persisted accumulation and no clearance of nano-titanium after stopping exposure enhanced its toxicity and increased the incidence of cancer.

Biography

Hanan R.H Mohamed is now a lecturer of Genetics in Zoology Department Faculty of Science Cairo University, obtaining the M.Sc (2008) and ph.D degrees (2012) in Cyto and Molecular Genetics from Faculty of Science Cairo University. Now, teaching various courses in Faculty of Science Cairo University and has good experience in various techniques including Comet, micronucleus and chromosomal aberrations analysis assays and single strand conformational polymorphism (SSCP)etc. Attending several conferences and workshops and sharing in the Institutional Animal Care and Use Committee (IACUC) of the Faculty of Science of Cairo University since 2012. She have interests in several scientific branches including: Genetics, Molecular biology, Comet assay, Nanotoxicology, Safety evaluation and cancer research.

hananesresm@yahoo.com

Notes: