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Zinc oxide nanoparticles-induced molecular perturbations in respiratory disease patients: An *ex vivo/in vitro* exposure study

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Nanotechnology has found application in many diverse sectors. Zinc oxide (ZnO) nanoparticles are one of the major engineered metal oxide nanoparticles in different consumer products. The present communication, using differential expression analysis of P53, Ras and cell signalling pathway proteins provides evidence for the genotoxic and carcinogenic effects of ZnO ENP in lymphocytes from healthy individuals as well as in patients suffering from lung cancer, chronic obstructive pulmonary disease (COPD) and asthma. In the present study, it was observed that lymphocytes of lung cancer patients were more susceptible to effects from ZnO ENPs exposure than the COPD and asthma patients. In general asthma patients' responses were very much similar to those from controls.

Biography

Diana Anderson currently holds the Established Chair of the Division of Biomedical Sciences at the University of Bradford, UK. She obtained her first degree in the University of Wales and second degrees in the Faculty of Medicine, University of Manchester. In 1974, she was appointed as Head of Mutagenesis Studies at ICI's Central Toxicology Laboratory. She joined BIBRA International in 1981 as Head of Genetic and Reproductive Toxicology and became Assistant Director and Group Forum Co-ordinator in 1987. In 1992, she became Senior Associate and Co-ordinator of External Affairs at BIBRA. She has attended various management courses. She has served on the editorial board of 8 international journals plus 2 on line journals, has over 400 publications. She is Series Editor of books in Current Toxicology for John Wiley and Sons and Issues in Toxicology for the Royal Society of Chemistry. She is an active Committee member and has been Vice-President of the Institute of Biology. She has been invited to speak at many international meetings and chair numerous symposia. She has helped establish new research laboratories in India and Korea under the auspices of the British Council and UNIDO. She recently won a prize as an Enterprise Fellow. She has hosted and participated in 56 meetings for WHO/IPCS. She is a consultant for many international organizations, such as the WHO, NATO, TWAS, UNIDO and the OECD.

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