



Multiple and diverse effects of carbon nanotubes and cerium oxide nanoparticles on inflammatory competent leukocytes Chair: Dr. Enrico Traversa (MANA PI)

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NAMIK

Nanotoxicology is becoming a prominent issue because of pollution-related exposure on one side, and the potential therapeutic use of tailored nanoparticles on the other. We have studied the effects of pristine multiwall carbon nanotubes (MWCNT) and cerium oxide nanoparticles (nanoceria) on survival/functioning of several types of white blood cells (leukocytes), the cells devoted to the defensive response to invasion of foreign molecules or microorganisms. Our studies have shown that pristine MWCNT affect survival and behavior of monocytic and lymphocytic cell lines; in particular, on monocytes freshly explanted from human blood, we found selective killing of mature cells, and atyipcal differentiation of immature monocytes. In conclusion, the features that render nanoparticles a risk for human health, are the same that render them potentially useful as pharmacological agents, and care must be taken in order to orient future studies to develop a coherent picture of nanoparticles effects at the cellular level.

Venue: Seminar Room #431, MANA Bldg. Date: December 16th (Thu) Time: <u>11:00-11:45</u>

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