OMICS International
conferenceseries.com
4th Global Summit on
Toxicology
August 24-26, 2015 Philadelphia, USA

Cytotoxicity of silver sulfide quantum dots evaluated by the MTT cell culture assay in Hela Cells

Deniz Özkan Vardar[1], **Ibrahim Hocaoglu**[2], **Havva Funda Yagcı Acar**[2] and **Nurşen Başaran**[3]
[1]Hitit University, Turkey
[2]Koc University, Turkey
[3]Hacettepe University, Turkey

Nanomaterials have received enormous attention for their potential applications in biology and medicine. A key issue in evaluating the utility of these materials is the assessment of their potential toxicity–either due to their inherent chemical composition or as a consequence of their nanoscale properties. Quantum dots are an example of a nanomaterial that has been shown to be useful as an alternative to fluorescent dyes for use in biological imaging, due to their bright fluorescence, narrow emission, broad UV excitation, and high photo stability. In addition to labeling of cellular structures *in vitro*, several groups have demonstrated the use of quantum dots (QDs) for fluorescence imaging *in vivo*. Several *in vitro* and *in vivo* studies have been cited in the literature as demonstrating the lack of evidence for QD-induced cytotoxicity. The sensitivity of the cytotoxicity assay used differs depending on the different mechanisms, which lead to cell death. The MTT assay is simple and rapid to use, which determines, the metabolic activity of the mitochondria can be determined. We aimed to evaluate the cytotoxic effects of silver sulfide quantum dots coated with 2-Mercaptopropionic acid (2MPA) and Meso-2, 3-dimercapto succinic acid (DMSA) because of the lack of studies in this area. Cytotoxicity was evaluated by the MTT assay in HeLa cells. Our results showed that Ag2S QDs were not cytotoxic effects after 24 h exposure.

Biography

Deniz Özkan Vardar has completed his bachelor's and master degree at Gazi University. She is PhD student in Department of Nanotechnology and Nanomedicine, Hacettepe University. Her academic work is focused on nanotoxicology especially nano genotoxicology. She has published 2 papers about genotoxicity. She has worked for more than 5 years in the Departments of Health Programs, Hitit University.

denizozkantr@gmail.com