J Nanomed Nanotechnol 2014, 5:5
http://dx.doi.org/10.4172/2157-7439.S1.019

OMICS Group Conferences
Accelerating Scientific Discovery

4th International Conference on
Nanotek & Expo

December 01-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA

Preparation of sulfur nanoparticles and investigating their activities against cancer cells

Anas Al-Ali, Mohammed Suleiman and Ayman Hussein
AN-Najah National University, Palestine

Sulfur is an important element and has many practical applications in present as nanoparticles. Nanosize sulfur particles also have many important applications like in pharmaceuticals, medicine, synthesis of nano-composites for lithium batteries, modification of carbon nano tubes. Different methods were used for nano-sized particle synthesis; among those, chemical precipitation, electrochemical method, micro emulsion technique, composing of oil, surfactant, co-surfactant, aqueous phases with the specific compositions and ultrasonic treatment of sulfur-cystine solution In this work Sulfur nanoparticles (S NPs) were prepared by a quick precipitation method with and without using a surfactant to stabilize the formed S NPs. The synthesized S NPs were characterized by XRD, SEM and TEM in order to confirm their sizes and structures. Application of nanotechnology is suggested for diagnosis and treatment of cancer. The anticancer activity of the prepared S NPs has been tested on various types of cancer cell clones including leukemia, kidney and colon cancers. The desired S NPs revealed ahigh promising activity and selectivity toward killing kidney cancer.

arsr986@yahoo.com

Functional proteomics for biomarker and drug discovery

Manuel Fuentes
University of Salamanca-CSIC, Spain

In post-genome era having sequence the human genome, one of the most important pursuits is to understand the function of gene-expressed proteins. The overwhelming size and complexity of human proteome requires very high-throughput techniques for rapid analysis. Despite significant advancements in molecular biology and genetics tools, this demand has not been satisfied and only a small fraction of the proteome has been understood at the biochemical level. Systems Biology and Proteomics strive to create detailed predictive models for molecular pathways based upon quantitative behavior of proteins. Understanding these dynamics networks provides clues into the consequence of aberrant interactions and why they lead to diseases such as cancer. Historically, methods capable of collecting quantitative data on biochemical interactions could only be used for one or a few proteins at the time. Protein microarrays allow hundreds to thousands of proteins to be analyzed simultaneously, providing an attractive option for high-throughput studies such as protein-protein interaction, differential protein profiles. Here, we will present a novel approach based on combination of nanotechnology and proteomics tools for biomarker and drug discovery useful for earlier diagnosis and personalized medicine.

mfuentes@usal.es