Sang Soo Hah, J Anal Bioanal Techniques, 2:6
doi: http://dx.doi.org/10.4172/2155-9872.S1.02

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Analytical & Bioanalytical Techniques

16-17 December 2011 San francisco, USA

TITLE

Towards Biomarker-Dependent Tailored Chemotherapy: Quantitative Analysis of Drug-DNA Adducts Using Accelerator Mass Spectrometry

Sang Soo Hah

Department of Chemistry and Research Center for New Nano Bio Fusion Technology, Kyung Hee University, 1 Hoegi-dong Dongdaemun-gu, Seoul 131-701, South Korea

The use of radioisotopes has a long history in biomedical science, and the technique of accelerator mass spectrometry (AMS), an extremely sensitive nuclear physics technique for detection of very low-abundant, stable and long-lived isotopes, has now revolutionized high-sensitivity isotope detection in biomedical research, because it allows the direct determination of the amount of isotope in a sample rather than measuring its decay, and thus the quantitative analysis of the fate of the radiolabeled probes under the given conditions. Since AMS was first used in the early 90's for the analysis of biological samples containing enriched ^{14}C for toxicology and cancer research, the biomedical applications of AMS to date range from *in vitro* to *in vivo* studies. In this talk, I will present successful AMS applications to measurement of the kinetics and repair of DNA adducts formed by two chemotherapeutic compounds, carboplatin and oxaliplatin. Ultimately, I hope to use this method to measure the intrinsic platinated DNA adduct repair capacity in cancer patients for use as a biomarker for diagnostics or a predictor of patient outcome.

Biography

Sang Soo Hah received his Ph.D. in Bioorganic Chemistry from the College of Natural Sciences at Seoul National University, and worked as a Postdoctoral Fellow at Columbia University, USA, and at Lawrence Livermore National Laboratory, USA, in order to extend his research experience to the areas of molecular biology and toxicology, and of cancer etiology and pharmacology. He also worked in industry as a Research Fellow. He is an Assistant Professor (Department of Chemistry) and Director (Research Center for New Nano Bio Fusion Technology) at Kyung Hee University, South Korea.