

Metabolomics in Drug Delivery System

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Metabolomics which deals with the biological metabolite profile produced in the body and its relation to disease state is a relatively recent research area for drug discovery and biological sciences including toxicology and pharmacology. Metabolomics, based on analytical method and multivariate analysis, has been considered a promising technology because of its advantage over other toxicogenomics and toxicoproteomics approaches. The application of metabolomics includes the development of biomarkers associated with the pathogenesis of various diseases, alternative toxicity tests, high-throughput screening (HTP), and risk assessment, allowing the simultaneous acquisition of multiple biochemical parameters in biological samples. The metabolic profile of urine, in particular, often shows changes in response to exposure (delivery) to xenobiotics including drugs, because of the biological system's attempt to maintain homeostasis. In this presentation, metabolomics will be introduced and discussed for its usefulness in drug delivery system and also two studies are going to be shown for toxicological application using metabolomics technology.