Methodologies for metabolomics : experimental strategies and techniques

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Abstrak

"While most of the focus in "omics" science over the past decade has been on sequencing the human genome [1] or annotating the human proteome [2], there is another equally important component of the human body that has, until recently, been largely overlooked: the human metabolome. The human metabolome can be thought of as the complete collection of small molecule metabolites found in our bodies. These small molecules include such chemical entities as peptides, amino acids, nucleic acids, carbohydrates, organic acids, vitamins, minerals, food additives, drugs and just about any other chemical (with a molecular weight 1500 Da) that can be used, ingested or synthesized by humans. Metabolites act as the bricks and mortar of our cells. They serve as the building blocks for all of our macromolecules including proteins, RNA, DNA, carbohydrates, membranes and all other biopolymers that give our cells their structure and integrity. Metabolites also act as the fuel for all cellular processes, the buffers to help tolerate environmental insults and the messengers for most intra- and intercellular events. Together with the genome and the proteome, the human metabolome essentially defines who and what we are."-- Provided by publisher