Metabolomics approach in pharmacognosy

ABSTRACT

This chapter introduces readers to metabolomics as a new tool in pharmacognosy research. The escalating cost of medicine and health care services warrant the development of new ways and approaches in remedying the problem. Application of metabolomics approach in various aspects of pharmacognosy research may assist in reducing the cost of drug discovery and development.Metabolomics is a holistic approach in understanding biological processes at a system level. It incorporates an extensive use of instrumentation (especially spectroscopy) and statistical methods. The tool has been successfully tested in solving numerous problems from diverse fields, and offers good promises of its benefits and potential use. This chapter discusses to the basic understanding and procedures in metabolomics, including sample selection, collection, data acquisition, and data analysis. Relevant topics to pharmacognosy are also discussed to expose readers to some examples of the investigations involving metabolomics.

Keyword: Pharmacognosy; Metabolomics data acquisition and processing; Statistical data processing; Metabolomics identification; Plant metabolomics; Herbal medicine research; Drug discovery and development