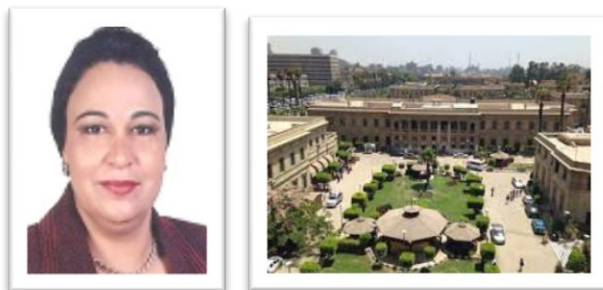


Medicinal plants and biopharmaceutics a potential source of drug discovery

Aziza Mahrous Mohamed Amer

Cairo University, Egypt



Abstract

Plants are extraordinarily rich sources of medicinally active compounds but was not addressed in a systematic manner until the 1980's as a source of novel molecules. Medicines are used whole plant or as concentrated plant extracts without isolation of active compounds. Most medicinal plants extract components work synergistically to induce their therapeutic effects. Often isolation of a single “active compound” it becomes therapeutically ineffective. Drug discovery is a multidisciplinary study of several parameters of both natural and synthetic compound (safety, pharmacokinetics/pharmacodynamics) to be evaluated to insure effective compound selection.

Advanced biology approach systems combined with application recent technologies such as genomics, proteomics, transcriptomics, metabolomics/metabonomic are essential for obtaining drug from plant origin. Recently, biotechnology and used in multiply and conserve the critical genotypes of medicinal plants. High-quality plant-based medicine can produce by genetic transformation and In-vitro regeneration. While In-vitro production of secondary metabolites in plant cell suspension cultures or bioreactors are the key step towards commercial production of secondary metabolites by plant biotechnology as a biopharmaceutics.

Computational strategies and Artificial Intelligence considered as a potential approach for drug discovery. These methods speed in drug discovery and evaluation of the safety, pharmacokinetics, and efficacy of candidate compounds.

Optimization of the drug discovery process is multidimensional research field. In, therapeutic compound designs several factors should take in consideration. These factors include absorption,

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distribution, metabolism, excretion, and toxicity (ADMET) criteria and biological activity of the final product.

Biography

Aziza Mahrous Mohamed Amer has Graduated 1981, BVSc (1981), MVSc(1985), PhD(1987), Professor (2007 - Now), EX Dean, Professor of pharmacology Faculty of Veterinary Medicine, Cairo University, Egypt, has experiences in pharmaceutical pharmacokinetics, pharmacodynamics, clinical pharmacokinetics, clinical pharmacology, pharmacokinetics interactions, drug interactions, nanotechnology as new drug delivery system, effect of diseased conditions on pharmacokinetics, medicinal plants as source of new drugs, bases of therapeutic application of pharmaceuticals, evaluation of new compounds and new formulas as a novel drugs. Experiences in veterinary health care, evaluation of drug residues in edible tissues, bacterial resistance to antibiotics, field experience in drug applications, antiseptics and disinfectant applications, Biosecurity and biosafety, pharmaceutical biotechnology. 133 Published paper, 65 international conferences, 45 public and scientific lectures, supervised 15 Master and 7 PhD and shared in 20 theses, Fellowships (Germany, USA, Dublin), reviewed a lot of national and international thesis and published paper. Teaching for graduate and post-graduates' students, social and environmental activities as well as scientific and field consultation and training, Quality and accreditation expert.

Publications

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