DRUG DISCOVERY of POTENTIAL DRUG CANDIDATES from SOME TURKISH MEDICINAL PLANTS

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Bioresources have tremendous potential in providing bioactive compounds for the development of new leads. There is a great scope for new drug candidates based on traditional medicinal plants throughout the world. Medicinal plants have an enermous potential for producing bioactive compounds of great benefit to mankind. The achievements in the field of science and technology were resulted in the isolation of pure compounds such as morphine, quinine, digoxin, atropine, ephedrine, reserpine, galanthamine and taxol were used in clinic. Some compounds like diosgenin can also be used to obtain steroidal compounds (cortisone, hormones) as starting compound. The number of drugs derived from medicinal plants that are recently introduced into clinical use is increasing. Besides, numberous of standardized herbal extracts were approved by the health authorities to be used in phytotherapy as phytomedicines.

Turkey is one of the rich countries in terms of bioresources depends on different climates, geographical location, ecological factors and aquatic environments as well as the passageway between Europe, Asia and Africa. Therfore the floristic diversity provides a wide choise of species represented 12.000 taxa of which 3700 is endemic. Turkey is a party to the Convention on Biological Diversity which states that participating countries have sovereign rights over their own bioresources.

The drug discovery program from nature in our laboratory involves several steps from plant collection, extraction, HTS of the extracts by using *in vitro* enzyme inhibitory tests, bioassay-guided fractionation through the isolation, structure elucidation of bioactive compounds. We found diverse classes of compounds ranging from simple aromatics to complex molecules of alkaloids, terpenoids, steroids and phenylpropanoids showed significant biological activities including anticholinergic, anticholinesterase, antiinflammatory, antimalarial, antituberculosis and antiprotozoal from Amaryllidaceae, Liliaceae, Iridaceae, Buxaceae, Fumariaceae, Taxaceae etc. plant families. The investigation of these sources requires multidisciplinary approach in the discovery and development process. In this presentation, selected Turkish medicinal plants that possess several bioactivities alongwith some drug candidates have been summarized.