

Natural products

Business



Natural products isolated from various sources especially derived from plants, have long been used in treatment of human ailments. For long time, the approach to new drugs through natural products was proved to be the single most successful approach for the discovery of new drugs.

Despite the initial success, chemical diversity and specific action on target, drug discovery from natural products, has been deemphasized by many pharmaceutical companies in favour of approaches based on combinatorial chemistry and genomics. Natural products have a large unexplored range of compounds, which is almost incredible to imitate, they will always remain a prospective source of future drug discovery (Gurnani et al., 2014).

Nature have been explored by people in search of new drugs particularly plants. Medicinal plants have curative properties to treat various diseases due to this reason use the large number. Almost 95 % of the prescriptions were plant based in the traditional system of Unani, Homeopathy, Ayurveda and Siddha in Indian traditions. The study of plants continues principally for the discovery of unique secondary metabolites.

Bark, leaves, flowers and seeds are any part of the plant may contain active compounds, plant products have been holding phytomedicines these can be derived from plant. In recent years, there has been a gradual revival of interest in the use of medicinal plants in developing countries because herbal medicines have been reported safe and without any adverse side effect especially when compared with synthetic drugs. Thus a search for new drugs with better and cheaper substitutes from plant origin is a natural choice.

The medicinal values of these plants lie in some chemical substances that produce a definite physiological action on human body (Savithrama et al., 2011). An oxidativestressis the result of free radicals, which form stable electron pairing with biological macromolecules such as proteins, lipids and DNA in healthy human cells and cause protein and DNA damage along with lipid peroxidation.

It is answerable for many of today's diseases that results from an imbalance between formation and neutralization of prooxidants. In defense against this oxidative stress, body have their own system including various enzymes, proteins, and vitamins, which are known as antioxidants (Aruna kumari and Sharma 2017).

The method of scavenging of DPPH radicals was developed by Blois (1958). The method is rapid, inexpensive, simple, and the results are reproducible. This method has been widely used by various researchers to evaluate free radical scavenging activity of plants (Raghavendra et al., 2017).

Bioinformatics is a key factor in rapid growing advanced in genomics, proteomics, medicine, drug invention and development. Bioinformatics has become a very significant part of different areas of biology is tool and technique to aid in the processing extraction and determination of large amount of raw data, textual mining of biological literature, analysis of Deoxyribonucleic acid (DNA), Ribonucleic acid (RNA), Protein structure, Gene expression, Genetic genomic data and help analyze biological pathways that are imperative part of the system biology (Nahla et al., 2016).