Emerging role of bioautographic techniques in herbal drug standardization

Raja Chakraverty
Bengal School of Technology, West Bengal, India

Traditional medicine has been defined by the World Health Organization (WHO) as the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses and handed down from one generation to another. Standardization techniques of these products and evaluation of their safety and effectiveness are the current area of thrust in many countries of the world. For the purpose of this present review study, bibliographical literature databases and abstracting sites such as PubMed, Taylor and Francis and Cochrane Reviews were searched comprehensively ranging from 2009-2016. Bioautography represents one such emerging scientific technique adopted for the specific isolation of active molecules using chromatographic techniques followed by thorough biological evaluation of the selected lead compounds. They afford a quick, convenient way of evaluation of the bioactive lead compounds from plant extracts. The bioautographic techniques follow the broad principle of identification of the lead compound from the natural product which is followed by subsequent biological evaluation. In addition to the other sophisticated techniques of HPLC, HPTLC, UPLC, GC-MS, LC-MS, FTIR, NMR, Mass spectrometry; metabolomic studies and bioautography techniques have found an emerging role in the crucial herbal drug standardization process. These aforesaid techniques have been used for the detection of medicinal products ranging from antimicrobials to antidiabetics and have a potential in ensuring safe, effective and quality natural products from indigenous natural sources and thereby promoting the cause of evidence-based pharmacotherapy.

rchakraborty20@yahoo.com