CHROMATOGRAPHY TECHNIQUES FOR ISOLATION OF PHYTOCONSTITUENTS FROM MEDICINAL PLANTS

Abstract

Chromatography techniques play a pivotal role in the isolation of phytoconstituents from medicinal plants, facilitating the extraction and purification of bioactive compounds. This abstract review the diverse chromatographic methods employed in the quest for isolating and characterizing phytochemicals with therapeutic potential. Gas chromatography (GC) enables the separation of volatile compounds, while high-performance liquid chromatography (HPLC) offers versatile separation of a wide range of phytoconstituents. Thin-layer chromatography (TLC) provides rapid qualitative analysis and serves as a preliminary step in compound isolation. Preparative chromatography methods, such as flash chromatography and preparative HPLC, are crucial for obtaining larger quantities of pure compounds. Furthermore, liquid chromatography-mass spectrometry (LC-MS) and gas chromatography-mass spectrometry (GC-MS) are indispensable tools for compound identification and structural elucidation, aiding in the characterization of complex phytochemical profiles. The synergy of these chromatographic techniques allows researchers to navigate through the intricate chemical composition of medicinal plants, uncovering valuable bioactive molecules. By harnessing the power of chromatography, the isolation and purification of phytoconstituents become more efficient and accurate, contributing to the advancement of herbal medicine and drug discovery. The constant evolution and integration of chromatography methods with modern technology continue to

Authors

Rustam Ekbbal
Department of Pharmacology
IIMT College of Medical Sciences
IIMT University, O Pocket
Meerut, Uttar Pradesh, India.
rustamekbbal@gmail.com

Mhaveer Singh
Pharmacy Academy
IFTM University, Lodhipur Rajput
Moradabad, Uttar Pradesh, India.
maahishaalu7@gmail.com

Dr. Gaurav
Assistant Professor
IIMT College of Medical Sciences
IIMT University, O Pocket
Meerut, Uttar Pradesh, India.
gautamgaurav878@gmail.com

Sapna Salar
Department of Pharmaceutical Sciences
Apex University
Jaipur, Rajasthan, India.
sapnasalar50@gmail.com