IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, May 2024

A Review on High Performance Liquid Chromatography (HPLC)

Priya M. Dandekar, Mayuri G. Zore, Aasma I. Sheikh, Abhishek S. Jaware, Aditya G. Sarnaik, Aditya A. Sawde, Achal B, Lode
Gawande College of Pharmacy, Sakhakherda, Sindhkhedraja, Buldhana, India
bhimewalpriya@gmail.com

Abstract: *High-performance liquid chromatography (HPLC) is an important qualitative and quantitative technique, generally used for the estimation of pharmaceutical and biological samples. It is the most versatile, safest, dependable, and fastest chromatographic technique for the quality control of drug components. This article was prepared with a review different aspects of HPLC, such as principle types, instrumentation, and application. High- Performance Liquid Chromatography has played a significant role in clinical laboratories for the separation and quantitation of biomarkers in different body fluids. The development of HPLC involves four basic steps; scouting, optimization, robustness testing, and validation. The technique is used to analyze drugs and medicines for their purity and to maintain the highest standards for pharmaceutical products with the end goal of helping patients with medical issues. Method of validation is the process used to confirm that the analytical procedure employed for a specific test is suitable for its intended use. Validation High-Performance Liquid Chromatography method as per ICH guidelines covers all the performance characteristics of validation, like Accuracy, precision, specificity, linearity, range, limit of detection, limit of quantification, robustness, system suitability the testing. The limitation of High-Performance Liquid Chromatography methods of development, public health importance, and validation is the automated process becomes complicated, has low separation power, and is expensive but High-Performance Liquid Chromatography is the modern diagnostic technique is used in all sectors.*

Keywords: HPLC, Chromatography, Mobile phase

DOI: 10.48175/IJARSCT-18251