



## METADATA

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### Abstract

Biochemistry, a vital and integral subject, is a cornerstone in the curricula of numerous departments in the Schools of Applied Sciences and the Schools of Health Sciences. Students' foundational and practical training in biochemical topics not only paves the way for understanding intricate biological reactions but also plays a pivotal role in the consolidation of complex biological concepts. This ebook is dedicated to presenting the fundamental laboratory techniques for the analysis and separation of proteins, underscoring the significance of students' training in this area. Proteins constitute a remarkably heterogeneous class of biological macromolecules. Away from their natural environment, they show chemical instability, creating the need for special handling during

their isolation and analysis. The rapid development of Recombinant DNA technology and the multitude of applications resulting from its use, as well as the evolution and refinement of analytical methods, make it necessary to know the basic principles of isolation and handling of biological samples containing protein sources. In this specific Laboratory Guide, a thorough approach is attempted to understand basic analytical techniques related to the fractionation of proteins in their solutions. An attempt is made to present classical analytical methods of qualitative and quantitative analysis and clarify their basic operating principles. Gel electrophoresis, gel exclusion chromatography, affinity chromatography, and ion exchange chromatography will be presented.

