



## Manual of Cardiovascular Proteomics

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**Abstract:** This book highlights the remarkable advances that have contributed to the development of proteomics over the last two decades. While many of the concepts, methods, and technologies can be widely applied across fields of biomedical research, this book has been tailored for the cardiovascular researcher, with the many facets of cardiovascular disease reflected within the chapters. New methods and technologies are discussed in a manner that is understandable to scientists who are new to the proteomics arena in order to accelerate knowledge dissemination. The full measure of topics that define modern cardiovascular proteomics have been covered, including but not limited to experimental design, sample preparation and separation, mass spectrometry technologies, protein identification and quantitation, as well as statistical, pathway and network analyses of proteomics results. Manual of Cardiac Proteomics addresses many of the technical subtleties to be considered when embarking on a cardiovascular proteomic study. It as an invaluable guide for scientists entering the field, as well as clinicians and trainees in cardiology and all related disciplines.

Contents:	1. A Historical Perspective on Cardiovascular Proteomics – 2. Basic Concepts in Mass Spectrometry and Protein Quantitation – 3. How to Design a Cardiovascular Proteomics Experiment – 4. Organelle, Protein and Peptide Fractionation in Cardiovascular Proteomics – 5. Vascular Proteomics – 6 Stem Cell Proteomics – 7. Bottom-Up Proteomics – 8. Top-Down Proteomics – 9. Targeted Proteomics (MRM) in Cardiovascular Research – 10. Label-Free Quantification by Data Independent Acquisition Mass Spectrometry to Map Cardiovascular Proteomes – 11. Labeling and Label-Free Shotgun Proteomics Quantification in the Research of Cardiovascular Diseases – 12. Analysis of Proteomic Data – 13. Post-translational Modifications in the Cardiovascular Proteome – 14. Proteomic Network Systems Analysis – 15. Sensing and Remembering Cellular States Through Chromatin – 16. Synergizing Proteomic and Metabolomic Data to Study Cardiovascular Systems – 17. Clinical Cardiovascular Proteomics – 18. Concluding Remarks: Proteomics AD 2025.
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