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Nota di contenuto	Proteomics in Practice; Contents; Preface; Foreword; Abbreviations, Symbols, Units; Introduction; 1 History; 2 Critical Points; 2.1 Challenges of the Protein Samples; 2.2 Challenges of the Analysis Systems; 3 Proteomics Strategies; 3.1 Proteome Mapping; 3.2 Differential Analysis; 3.3 Time Point Experiments; 3.4 Verification of Targets or Biomarkers; 3.5 Integration of Results into Biological Context; 3.6 Systems Biology; 4 Concept of Experimental Planning; 4.1 Biological Replicates; 4.2 Pooling of Samples: Yes or No?; 4.3 Pre-fractionation of Samples: Yes or No? 4.4 Which is the Best Workflow to Start With?Part I: Proteomics Technology; 1 Electrophoretic Techniques; 1.1 The Principle of Electrophoresis and Some Methodological Background; 1.1.1 Free Flow Electrophoretic Methods; 1.1.2 Gels for Electrophoretic Techniques; 1.1.3 Electroendosmosis Effects; 1.2 Polyacrylamide Gel Electrophoresis; 1.2.1 The Polyacrylamide Gel; 1.2.2 SDS Polyacrylamide Gel Electrophoresis; 1.2.3 Blue Native Electrophoresis; 1.2.4 Cationic

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1.4 Isoelectric Focusing1.4.1 Theoretical Background; 1.4.2 Preparation of IEF Gels; 1.4.3 Isoelectric Focusing in Proteomics; 1.5 Two-dimensional Electrophoresis; 1.5.1 Sample Preparation; 1.5.2 Pre-labeling of Proteins for Difference Gel Electrophoresis; 1.5.3 First Dimension: Isoelectric Focusing in IPG Strips; 1.5.4 Second Dimension: SDS Electrophoresis; 1.5.5 Detection of Protein Spots; 1.6 Image Analysis; 1.6.1 Image Acquisition; 1.6.2 Image Analysis and Evaluation; 1.6.3 Use of 2-D Electrophoresis Data; 1.7 Spot Handling; 1.7.1 Spot Picking; 1.7.2 Protein Cleavage
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3.2.6 TOF/TOF Analyzer

Sommario/riassunto

Still the only concise practical guide to laboratory experiments in proteomics, this new edition now also covers DIGE technology and liquid-chromatography, while the troubleshooting section has been considerably extended. Adopting a practical approach, the authors present the relevant techniques and explain the route to successful experimental design and optimal method selection. They cover such electrophoretic techniques as isoelectric focusing, SDS page, 2-D page, and DIGE, as well as liquid-chromatography techniques, such as ion exchange, affinity chromatography and reversed-phase HPLC.