Contents

Preface .......................................................... v
Contributors .................................................... ix

1 Chemical and Instrumental Approaches for Capillary Electrophoresis (CE)—Fluorescence Analysis of Proteins ........................ 1
Isabelle Le Potier, Audrey Boutonnet, Vincent Ecochard, and François Couderc

2 Discrimination of Glycoproteins from Unglycosylated Proteins in Capillary Electrophoresis: Two-Color LIF Detection Coupled with Post-column Derivatization ................................................................. 11
Takashi Kaneta

3 Capillary Zone Electrophoresis-Mass Spectrometry of Intact Proteins ........... 25
Elena Domínguez-Vega, Rob Haselberg, and Geovert W. Somsen

4 Screening of Small Intact Proteins by Capillary Electrophoresis Electrospray Ionization-Mass Spectrometry (CE-ESI-MS) .......... 43
Sabine Neuberger, Angelina Rafai, and Christian Neusüss

5 Online Capillary IsoElectric Focusing-ElectroSpray Ionization Mass Spectrometry (CIEF-ESI MS) in Glycerol–Water Media for the Separation and Characterization of Hydrophilic and Hydrophobic Proteins ......................................................... 57
Meriem Mokaddem, Fanny d’Orlyé, and Anne Varenne

6 On-Line Solid-Phase Extraction Capillary Electrophoresis Mass Spectrometry for Preconcentration and Clean-Up of Peptides and Proteins ................................................................. 67
Fernando Benavente, Silvia Medina-Casanellas, Estela Giménez, and Victoria Sanz-Nebot

7 Affinity Monolith-Integrated Microchips for Protein Purification and Concentration ................................................................. 85
Changlu Gao, Xiubua Sun, Huaxin Wang, Wei Qiao, and Bo Hu

8 Analysis of Somatropin by Double-Injection Capillary-Zone Electrophoresis in Polybrene/Chondroitin Sulfate A Double-Coated Capillaries .................. 93
Ahmad Amini

9 Poly(N,N-Dimethylacrylamide)-Based Coatings to Modulate Electroosmotic Flow and Capillary Surface Properties for Protein Analysis .................. 107
Laura Sola, Marina Cretich, and Marcella Chiari

10 Measurement of Inflammatory Chemokines in Micro-dissected Tissue Biopsy Samples by Chip-Based Immunoaffinity Capillary Electrophoresis .......... 121
Terry M. Phillips, Edward Wellner, Shane McMohan, and Heather Kalish
11 Separation of Recombinant Therapeutic Proteins Using Capillary Gel Electrophoresis and Capillary Isoelectric Focusing .......................... 137
Caitlyn A.G. De Jong, Jessica Risley, Alexis K. Lee, Shuai Sherry Zhao, and David D.Y. Chen

12 Characterization of Chemical and Physical Modifications of Human Serum Albumin by Capillary Zone Electrophoresis ..................... 151
Anne-Lise Marie, Nguyet Thuy Tran, and Myriam Taverna

13 Capillary Electrophoresis Method for the Assessment of Erythropoiesis-Stimulating Agents in Final Formulations .......................... 165
Michel Girard, Anita Kane, and Sylvie Boucher

14 Quality Control of Therapeutic Monoclonal Antibodies at the Hospital After Their Compounding and Before Their Administration to Patients ....... 179
Emmanuel Jaccoulet, Claire Smadja, and Myriam Taverna

15 Capillary Electrophoresis-Ultraviolet-Mass Spectrometry (CE-UV-MS) for the Simultaneous Determination and Quantification of Insulin Formulations ........................................ 185
Julie Schappler and Serge Rudaz

16 Applications of an Automated and Quantitative CE-Based Size and Charge Western Blot for Therapeutic Proteins and Vaccines ............... 197
Richard R. Rustandi, Melissa Hamm, Catherine Lancaster, and John W. Loughney

17 Affinity Capillary Electrophoresis Applied to Investigation of Valinomycin Complexes with Ammonium and Alkali Metal Ions ............. 219
Sille Štěpánová and Václav Kašicka

Index ................................................................. 233
Capillary Electrophoresis of Proteins and Peptides
Methods and Protocols
Tran, N.T.; Taverna, M. (Eds.)
2016, XI, 234 p. 72 illus., 42 illus. in color., Hardcover
ISBN: 978-1-4939-4012-7
A product of Humana Press