
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>xi</i>
1 Rapid LC–MS/MS Profiling of Protein Amino Acids and Metabolically Related Compounds for Large-Scale Assessment of Metabolic Phenotypes	1
<i>Liping Gu, A. Daniel Jones, and Robert L. Last</i>	
2 Combination of an AccQ-Tag-Ultra Performance Liquid Chromatographic Method with Tandem Mass Spectrometry for the Analysis of Amino Acids	13
<i>Carolina Salazar, Jenny M. Armenta, Diego F. Cortés, and Vladimir Shulaev</i>	
3 Isotope Dilution Liquid Chromatography-Tandem Mass Spectrometry for Quantitative Amino Acid Analysis	29
<i>David M. Bunk and Mark S. Lowenthal</i>	
4 Analysis of Underivatized Amino Acids: Zwitterionic Hydrophilic Interaction Chromatography Combined with Triple Quadrupole Tandem Mass Spectrometry	39
<i>Madeleine Dell'mour, Gunda Koellensperger, and Stephan Hann</i>	
5 Amino Acid Analysis via LC–MS Method After Derivatization with Quaternary Phosphonium	47
<i>Shinsuke Inagaki and Toshimasa Toyo'oka</i>	
6 Amino Acid Analysis by Hydrophilic Interaction Chromatography Coupled with Isotope Dilution Mass Spectrometry	55
<i>Megumi Kato and Akiko Takatsu</i>	
7 A Universal HPLC-MS Method to Determine the Stereochemistry of Common and Unusual Amino Acids	63
<i>Sonja Hess</i>	
8 Amino Acid Analysis by Capillary Electrophoresis-Mass Spectrometry	77
<i>Akiyoshi Hirayama and Tomoyoshi Soga</i>	
9 New Advances in Amino Acid Profiling by Capillary Electrophoresis-Electrospray Ionization-Mass Spectrometry	83
<i>Philip Britz-McKibbin</i>	
10 Optimal Conditions for the Direct RP-HPLC Determination of Underivatized Amino Acids with Online Multiple Detection	101
<i>A. Pappa-Louisi, P. Agrafiotou, and S. Sotiropoulos</i>	

11	Absolute Quantitation of Proteins by Acid Hydrolysis Combined with Amino Acid Detection by Mass Spectrometry	115
	<i>Olga A. Mirgorodskaya, Roman Körner, Yuri P. Kozmin, and Peter Roepstorff</i>	
12	Amino Acid Analysis by Means of MALDI TOF Mass Spectrometry or MALDI TOF/TOF Tandem Mass Spectrometry	121
	<i>Natalia V. Gogichaeva and Michail A. Alterman</i>	
13	Heptafluorobutyl Chloroformate-Based Sample Preparation Protocol for Chiral and Nonchiral Amino Acid Analysis by Gas Chromatography	137
	<i>Petr Šimek, Petr Hušek, and Helena Zahradníčková</i>	
14	The EZ:Faast Family of Amino Acid Analysis Kits: Application of the GC-FID Kit for Rapid Determination of Plasma Tryptophan and Other Amino Acids	153
	<i>Abdulla A.-B. Badawy</i>	
15	Amino Acid Analysis in Physiological Samples by GC–MS with Propyl Chloroformate Derivatization and iTRAQ–LC–MS/MS	165
	<i>Katja Dettmer, Axel P. Stevens, Stephan R. Fagerer, Hannelore Kaspar, and Peter J. Oefner</i>	
16	Automated Analysis of Primary Amino Acids in Plasma by High-Performance Liquid Chromatography	183
	<i>Durk Fekkes</i>	
17	RP-LC of Phenylthiocarbamyl Amino Acid Adducts in Plasma Acetonitrile Extracts: Use of Multiple Internal Standards and Variable Wavelength UV Detection.	201
	<i>Lionella Palego, Gino Giannaccini, and Antonio Lucacchini</i>	
18	Quantification of Underivatized Amino Acids on Dry Blood Spot, Plasma, and Urine by HPLC–ESI–MS/MS.	219
	<i>Giuseppe Giordano, Iole Maria Di Gangi, Antonina Gucciardi, and Mauro Naturale</i>	
19	Capillary Electrophoresis of Free Amino Acids in Physiological Fluids Without Derivatization Employing Direct or Indirect Absorbance Detection.	243
	<i>Gordana D. Žunić, Slavica Spasić, and Zorana Jelić-Ivanović</i>	
20	Measurement of 3-Nitro-Tyrosine in Human Plasma and Urine by Gas Chromatography-Tandem Mass Spectrometry	255
	<i>Dimitrios Tsikas, Anja Mitschke, and Frank-Mathias Gutzki</i>	
21	Analysis of Hydroxyproline in Collagen Hydrolysates	271
	<i>Tobias Langrock and Ralf Hofmann</i>	
22	Innovative and Rapid Procedure for 4-Hydroxyproline Determination in Meat-Based Foods	281
	<i>Maria Cristina Messina and Emanuele Marconi</i>	

23	Multiple Reaction Monitoring for the Accurate Quantification of Amino Acids: Using Hydroxyproline to Estimate Collagen Content	291
	<i>Michelle L. Colgrave, Peter G. Allingham, Kerri Tyrrell, and Alun Jones</i>	
24	Sequential Injection Chromatography for Fluorimetric Determination of Intracellular Amino Acids in Marine Microalgae.	305
	<i>Marilda Rigobello-Masini and Jorge C. Masini</i>	
25	Direct Analysis of Underivatized Amino Acids in Plant Extracts by LC-MS-MS.	317
	<i>Björn Thiele, Nadine Stein, Marco Oldiges, and Diana Hofmann</i>	
26	Wheat Gluten Amino Acid Analysis by High-Performance Anion-Exchange Chromatography with Integrated Pulsed Amperometric Detection.	329
	<i>Ine Rombouts, Bert Lagrain, Lieve Lamberts, Inge Celus, Kristof Brijs, and Jan A. Delcour</i>	
27	Preparative HPLC Separation of Underivatized Amino Acids for Isotopic Analysis	339
	<i>Jennifer A. Tripp and James S.O. McCullagh</i>	
28	Quantification of Amino Acids in a Single Cell by Microchip Electrophoresis with Chemiluminescence Detection	351
	<i>Yi-Ming Liu and Shulin Zhao</i>	
	<i>Index</i>	359

Amino Acid Analysis

Methods and Protocols

Alterman, M.A.; Hunziker, P. (Eds.)

2012, XIV, 363 p., Hardcover

ISBN: 978-1-61779-444-5

A product of Humana Press