Contents

Preface, ix
Contributors, xi

Part 1. Introduction, 3
1. Biologically Active Food Proteins and Peptides in Health: An Overview, 5
   Yoshinori Mine, Eunice C.Y. Li-Chan, and Bo Jiang

Part 2. Functions of Biologically Active Proteins and Peptides, 13
2. Anti-inflammatory/Oxidative Stress Proteins and Peptides, 15
   Denise Young and Yoshinori Mine
3. Antioxidant Peptides, 29
   Youling L. Xiong
4. Antihypertensive Peptides and Their Underlying Mechanisms, 43
   Toshiro Matsui and Mitsuru Tanaka
5. Food Protein-Derived Peptides as Calmodulin Inhibitors, 55
   Rotimi E. Aluko
6. Soy Protein for the Metabolic Syndrome, 67
   Cristina Martínez-Villaluenga and Elvira González de Mejía
7. Amyloidogenic Proteins and Peptides, 87
   Soichiro Nakamura, Takanobu Owaki, Yuki Maeda, Shigeru Katayama, and Kosuke Nakamura
8. Peptide-Based Immunotherapy for Food Allergy, 101
   Marie Yang and Yoshinori Mine
9. Gamma-Aminobutyric Acid, 121
   Bo Jiang, Yuanxin Fu, and Tao Zhang
10. Food Proteins or Their Hydrolysates as Regulators of Satiety, 135
    Martin Foltz, Mylene Portier, and Daniel Tomé

Part 3. Examples of Food Proteins and Peptides with Biological Activity, 149
11. Health-Promoting Proteins and Peptides in Colostrum and Whey, 151
    Hannu J. Korhonen
12. Functional Food Products with Antihypertensive Effects, 169
   Naoyuki Yamamoto

13. Secreted Lactoferrin and Lactoferrin-Related Peptides: Insight into Structure and Biological Functions, 179
   Dominique Legrand, Annick Pierce, and Joël Mazurier

14. Bioactive Peptides and Proteins from Fish Muscle and Collagen, 203
   Nazin K. Howell and Chitundu Kasase

15. Animal Muscle-Based Bioactive Peptides, 225
   Jennifer Kovacs-Nolan and Yoshinori Mine

16. Processing and Functionality of Rice Bran Proteins and Peptides, 233
   Rashida Ali, Frederick F. Shih, and Mian Nadeem Riaz

17. Bioactive Proteins and Peptides from Egg Proteins, 247
   Jianping Wu, Kaustav Majumder, and Kristen Gibbons

18. Soy Peptides as Functional Food Materials, 265
   Toshihiro Nakamori

   Bo Jiang, Wokadala C. Obiro, Yanhong Li, Tao Zhang, and Wanmeng Mu

20. Wheat Proteins and Peptides, 289
   Hitomi Kumagai

Part 4. Recent Advances in Bioactive Peptide Analysis for Food Application, 305

21. Peptidomics for Bioactive Peptide Analysis, 307
   Icy D’Siva and Yoshinori Mine

22. In silico Analysis of Bioactive Peptides, 325
   Marta Dziuba and Bartłomiej Dziuba

23. Flavor-Active Properties of Amino Acids, Peptides, and Proteins, 341
   Eunice C.Y. Li-Chan and Imelda W.Y. Cheung

24. Controlled Release and Delivery Technology of Biologically Active Proteins and Peptides, 359
   Idit Amar-Yuli, Abraham Aserin, and Nissim Garti

Index, 383