

Bioactive Proteins and Peptides as Functional Foods and Nutraceuticals

Yoshinori Mine, Eunice Li-Chan, and Bo Jiang *EDITORS*

 **WILEY-BLACKWELL**

A John Wiley & Sons, Inc., Publication



IFT
PRESS

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**
Nazlin 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
 19. **Bioactivity of Proteins and Peptides from Peas (*Pisum sativum*, *Vigna unguiculata*, and *Cicer arietinum* L), 273**
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