

Contents

VII Preface

IX Foreword

XI Contributors

Evolution of Human Microbiota

1 The Pregnancy Microbiome

Neuman, H.; Koren, O. (Israel)

11 Microbial Composition of the Initial Colonization of Newborns

Rautava, S. (Finland)

23 Bacterial Colonization of the Newborn Gut, Immune Development, and Prevention of Disease

Walker, W.A. (USA)

35 Epigenetics in Gastrointestinal Health and Disease: Spotlight on DNA Methylation in the Intestinal Epithelium

Zilbauer, M.; Kraiczy, J. (UK)

45 Gut-Brain Axis and Behavior

Martin, C.R.; Mayer, E.A. (USA)

55 Summary of Evolution of Human Microbiota

Walker, W.A. (USA)

Normal Development of Gut Microbiota and Dysbiosis

57 Dysbiosis in the Neonatal Period: Role of Cesarean Section

Neu, J. (USA)

67 Early-Life Antibiotic Exposure, Gut Microbiota Development, and Predisposition to Obesity

Azad, M.B. (Canada); Moossavi, S. (Canada/Iran); Owora, A. (Canada/USA); Sepehri, S. (Canada)

81 Microbiota and Necrotizing Enterocolitis

Patole, S. (Australia)

- 95 Microbiota and Obesity**
Isolauri, E. (Finland)
- 107 Microbiota in Functional Gastrointestinal Disorders in Infancy: Implications for Management**
Abrahamsson, T.R. (Sweden); Wu, R.Y.; Sherman, P.M. (Canada)
- 117 Diet and Gut Microbiota in Health and Disease**
Shen, T.-C.D. (USA)
- 127 Summary of Normal Development of Gut Microbiota and Dysbiosis**
Isolauri, E. (Finland)
- Human Milk Oligosaccharides
- 129 Enzymes in Human Milk**
Dallas, D.C.; German, J.B. (USA)
- 137 Compositional Analysis and Metabolism of Human Milk Oligosaccharides in Infants**
Kunz, C.; Rudloff, S. (Germany)
- 149 Differential Establishment of Bifidobacteria in the Breastfed Infant Gut**
Lewis, Z.T.; Mills, D.A. (USA)
- 161 Regulatory Aspects of Human Milk Oligosaccharides**
Salminen, S. (Finland)
- 171 Summary on Human Milk Oligosaccharides**
Sherman, P.M. (Canada)
- 173 Subject Index**