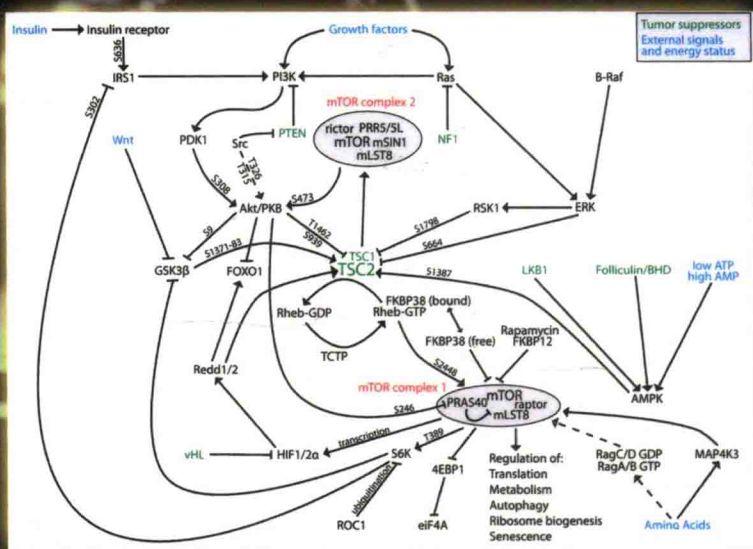


BIOACTIVE PEPTIDES

Applications
for Improving
Nutrition
and Health



Richard Owusu-Apenten



CRC Press
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BIOACTIVE PEPTIDES

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Preface

Weight loss is a common reaction to infection, injury, or chronic disease. Many well-known host responses to illness contribute to muscle loss. Ensuring adequate lean body mass is of major concern in health care. Bioactive peptides and medical foods represent new approaches for addressing the metabolic derangements and nutritional deficits that contribute to unwanted weight loss. This book describes the latest research on the application of bioactive peptides for improving nutrition and health. We present the background science in Chapters 1 through 5 on the relations between illness and muscle weight loss. Chapters 6 through 9 deal with the use of bioactive peptides to modify aspects of the host response to illness, including inflammation, antimicrobial activity, anabolic dysfunction, and anorexia. The chapter titles are

Chapter 1: Nutrition and the Host Response to Infection and Injury

Chapter 2: Bioactive Peptides for Nutrition and Health

Chapter 3: Dietary Protein Requirements for Health

Chapter 4: Protein Turnover and Economics within the Body

Chapter 5: Major Processes for Muscle Gain and Loss

Chapter 6: Inflammation and Innate Immune Response

Chapter 7: Infection and Sepsis

Chapter 8: Anabolic Dysfunction

Chapter 9: Bioactive Peptides for Alleviating Illness Anorexia

Evidence from *in vivo* studies and randomized clinical trials indicate that bioactive peptides can be effective in the prevention of weight loss associated with conditions such as aging, HIV/AIDS, burn injuries, chronic obstructive pulmonary diseases, diabetes, inflammatory bowel disease, kidney failure, and tuberculosis. Some of the approaches currently under development may be suitable for optimizing muscle growth and performance in otherwise healthy subjects. Parts of this book will be suitable reading for health-care professionals, including nutritionists, dietitians, food scientists, and technologists. The discussion will also be of interest to those interested in medical foods, nutraceuticals, and functional foods.

Richard Owusu-Apenten

University of Ulster

Coleraine Campus

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Richard Owusu-Apenten, PhD, spent his early years in the newly independent ex-British colony of Gold Coast, Ghana, where he attended schools at Akim Oda, Bolgatanga, Kumasi, and Berekum. His interest in biology and chemistry was nurtured by further education in Quintin Kynaston High School, St. John's Wood, followed with BSc (Hons) and PhD degrees from the University of London. Dr. Apenten (Kwasi Owusu-Apenteng) spent four years as a postdoctoral research fellow in China, Wales, and University College London before taking up a lectureship in food science at Leeds University in 1989. From 2001 to 2005, Dr. Apenten had a fruitful stint as an associate professor at Penn State University before returning to the United Kingdom to pursue further interests in nutrition. Dr. Apenten is employed with the School of Biomedical Sciences, University of Ulster, at the Coleraine campus. He is an active member of both the Institute of Food Technology (IFT) and the American Chemical Society (ACS), and a fellow of the Institute of Food Science and Technology (IFST) (United Kingdom).

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