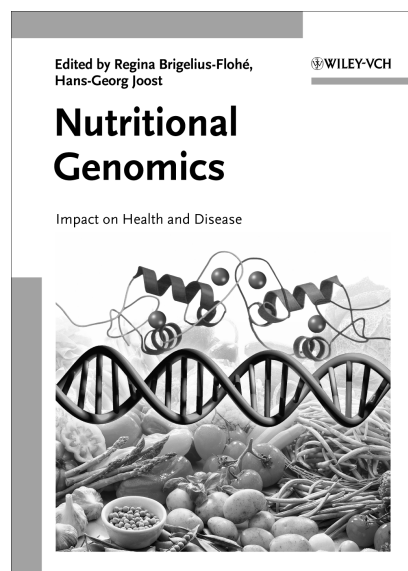


MNF Books



Nutritional Genomics – Impact on Health and Disease

Regina Brigelius-Flohé and
Hans-Georg Joost (Editors)
Wiley-VCH, Weinheim, 2006, pp. 442
ISBN-13: 978-3-527-31294-8

This book provides a comprehensive overview on the advances in the rapidly developing field of molecular nutrition. The contents are based on the 2004 “Mosbach Colloquium” of the GBM entitled “How nutrients influence gene activity”. Most of the people coming into this field are impressed by the recent advances and will be pleased to have such a complete and up-to-date review collection on the most impor-

tant research topics in molecular nutrition.

The book is divided into three parts. The first part is a short and comprehensive overview introducing and defining the concepts and methods that are currently the basis of nutrigenomic research.

The second part reviews our knowledge on “Nutrigenomics (Nutrient-Gene Interactions)” with a focus on nuclear receptors, while amino acid metabolism, nutrition and cancer or lipogenesis are discussed as well. After an introduction to the nuclear receptor family, the impact of retinoids, mediated by retinoid acid receptor (RAR) and retinoid-X-receptors (RXR) on cancer therapeutics is discussed. Other chapters follow, dealing with nuclear receptors such as liver-X-receptor (LXR) and fatty acid metabolism, the function of SREBP1 and ChREBP and three chapters describing the function of PPARs. The second part is completed by reviews on advances in selenoprotein expression and protein synthesis and cancer.

The third part, entitled “Nutrigenetics (Nutrient-Genotype Interactions)” reviews the influence of gene variants on the current health problems of industrial states like diabetes, obesity, atherosclerosis, hypertension, cancer and inflammatory responses. Additionally, the exciting fields of taste receptors and the metabolism of xenobiotics are presented. All three parts provide “state-of-the-art” knowledge written by experts in the field.

According to the European Nutrigenomics Organization (NUGO), “Nutrigenomics is the science that examines the response of individuals to food compounds using post-genomic and related technologies (*e.g.* genomics, transcriptomics, proteomics, metabolomics *etc.*).” The long-term goal of this approach is to integrate genetic data and our biochemical and molecular biology knowledge, providing individual nutritional advice to maintain health and allow successful ageing. Obviously, this discipline is still in its infancy, although our methods to analyse the transcriptome, proteome and metabolome are constantly being refined. This is due to the fact that we are exposed to a very complex mixture of food, which adds another dimension of complexity to research.

The first part of the book reflects the definition of nutritional genomics according to NUGO, whereas the following parts rather describe our knowledge on regulation of gene activity by nutrients with few references to the individual genotype or global gene/protein regulation.

Taken together, the book is an up-to-date collection of articles on recent advances in molecular nutrition and definitely worth reading.

Dr. Andreas Simm
University of Halle, Germany