

Nutritional Epigenomics

Volume 14

Edited by
Bradley S. Ferguson

Over the last decade, interest in diet-gene interactions has led researchers to examine epigenomic reprogramming and nutritional intervention in the treatment and prevention of disease. These studies, in part assisted with technological advances in epigenomic sequencing, have increased our understanding of diet's influence over epigenetic regulation in aging, fetal growth and development, transgenerational inheritance, and circadian rhythm, in addition to health and disease.

Nutritional Epigenomics offers a comprehensive overview of nutritional epigenomics as a mode of study and current understanding of nutrition's role in epigenomic regulation of disease, health, and developmental processes. Here, an expert team of international contributors introduce readers to nutritional epigenomic regulators of gene expression, our diet's role in epigenomic regulation of disease and disease inheritance, caloric restriction and exercise as they relate to recent epigenomic findings, and the influence of nutritional epigenomics over circadian rhythms, aging and longevity, and fetal health and development among other processes. Disease-specific chapters address metabolic disease (obesity and diabetes), cancer, and neurodegeneration among other disorders. Diet-gut microbiome interactions in the epigenomic regulation of disease, the role of micronutrients in epigenetic regulation, and race and ethnicity in the social-epigenomic regulation of health and disease are discussed as well.

Throughout *Nutritional Epigenomics*, close attention is paid not only to recent findings of translational significance but also to epigenomic approaches, technologies, and modes of analysis to enable future epigenomic studies.

Key Features:

- Fully empowers the reader in employing nutritional epigenomic approaches in their own research
- Discusses the latest topics in nutritional epigenomics in regulation of aging, circadian rhythm, inheritance and fetal development, and metabolism and disease
- Offers a full grounding in epigenetic reprogramming and nutritional intervention in the treatment and prevention of disease, as informed by population-based studies



ACADEMIC PRESS

An imprint of Elsevier
elsevier.com/books-and-journals

ISBN 978-0-12-816843-1



9 780128 168431