

Epigenetic Biomarkers and Diagnostics

Edited by:

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Exploring the intersection between epigenetic biomarkers and clinical diagnostics

Key Features

- Focuses on recent progress in several areas of epigenetics, general concepts regarding epigenetics, and the future prospects of this discipline in clinical diagnostics and prognostics
- Describes the importance of the quality of samples and clinical associated data, and also the ethical issues for epigenetic diagnostics
- Discusses the advances in epigenomics technologies, including next-generation sequencing based tools and applications
- Expounds on the utility of epigenetic biomarkers for diagnosis and prognosis of several diseases, highlighting the study of these biomarkers in cancer, cardiovascular and metabolic diseases, infertility, and infectious diseases

Epigenetic Biomarkers and Diagnostics comprises 31 chapters contributed by leading active researchers in basic and clinical epigenetics. The book begins with the basis of epigenetic mechanisms and descriptions of epigenetic biomarkers that can be used in clinical diagnostics and prognostics. It goes on to discuss classical methods and next generation sequencing-based technologies to discover and analyze epigenetic biomarkers. The book concludes with an account of DNA methylation, post-translational modifications and noncoding RNAs as the most promising biomarkers for cancer (such as breast, lung, and colon), metabolic disorders (such as diabetes and obesity), autoimmune diseases, infertility, allergy, infectious diseases, and neurological disorders.

The book describes the challenging aspects of research in epigenetics, and current findings regarding new epigenetic elements and modifiers, providing guidance for researchers interested in the most advanced technologies and tested biomarkers to be used in the clinical diagnosis or prognosis of disease.



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