

Transgenerational Epigenetics

Volume 13

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Recent research points to the existence of biological phenomena that are controlled not through gene mutations but rather through reversible and heritable epigenetic processes. These processes may have selective or adverse effects on offspring persisting for multiple generations.

Transgenerational Epigenetics, Second Edition, offers the only up-to-date, comprehensive analysis of the inheritance of epigenetic phenomena between generations with emphasis on human disease relevance, drug discovery, and next steps in clinical translation. Here, international experts discuss mechanisms of epigenetic inheritance, its expression in animal and plant models, and how human ailments, such as metabolic disorders, are influenced by transgenerational epigenetic inheritance. Where evidence is sufficient, epigenetic clinical interventions are proposed, which may help prevent disease before the offspring are born or reduce the severity of disease at the very earliest stages of development in utero.

This edition has been thoroughly revised in each disease area, featuring newly researched process in epigenetic regulation, including long noncoding RNA in addition to histone modifications and DNA methylation.

Key Features

- Fully updated and expanded to address human disease relevance of transgenerational epigenetics, epigenetic mechanisms of gene regulation, and the role of epigenetics in human metabolic disorders
- Examines the field from "bench to bedside," discussing basic science, disease management, current debates, and next steps in epigenetic research and drug discovery
- Features chapter contributions from international experts



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