Record Nr. UNINA9911034954403321 Autore Emmi Lorenzo Titolo Epigenetics and Rare Diseases // edited by Lorenzo Emmi, Vassilios Fanos Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 3-032-02902-3 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (388 pages) Collana Rare Diseases of the Immune System, , 2283-6403 Altri autori (Persone) **FanosVassilios** Disciplina 571.96 616.079 Soggetti **Immunology** Rheumatology Genetics Oncology Genetics and Genomics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Preface -- 1. From Genetics to Epigenetics: The Steps of a Path -- 2. Nota di contenuto Molecular basis of epigenetic mechanisms -- 3. Epigenetics and Endocrine Disruptors -- 4. New insights into the fetal programming hypothesis of the linkage between neurodevelopmental disorders and impaired neurogenesis -- 5. The Placenta and the development of human health -- 6. Epigenetics and cancer -- 7. Epigenetics in Autoimmune Diseases -- 8. Epigenetics and Systemic Vasculitis -- 9. Epigenetics and Allergic Diseases -- 10. The Role of Epigenetics in Autoinflammatory Diseases -- 11. Epigenetics and immune-mediated diseases -- 12. Epigenetics and Inherited Metabolic Disorders -- 13. Epigenetics and Psychiatric Diseases -- 14. The metabolomics revolution toward personalized medicine: the case of gestational diabetes -- 15. Epigenetics and Microbiome -- Index. Sommario/riassunto Epigenetics, as well as all -omics fields of study, such as transcriptomics, proteomics and metabolomics, have caused a revolution in all branches of medicine in recent years. This book

provides a detailed evidence-based overview of the latest

developments in how the recent acquisitions on the human genome

and epigenome is relevant, and how it impacts our understanding of rare diseases of the immune system. The first part features the evolving thread from genetics to epigenetics, their molecular basis, endocrine disruptors, as well as chapters devoted to the fetal programming hypothesis and functional basis of neurodevelopment, and the placenta as originating element. Successive chapters include contributions on the impact of epigenetics on cancer, as well as a comprehensive array of disorders as autoimmune disorders, allergic and metabolic diseases, systemic vasculitis, aging and inflammatory diseases, neurological and psychiatric conditions. The overview closes with considerations on the "-Omics" revolution and precision medicine, and the reflection of epigenetics on the microbiome. By providing guidance on how the latest information can be applied by the medical practitioner in day-today clinical practice, and collating the latest developments in rare diseases treatments to the "omics" that are relevant for the clinician while advocating for a patient-centered approach, Epigenetics and Rare Diseases will be a valued resource for clinicians, healthcare professionals, and patient associations.