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Titolo	Hypoxia in cancer : significance and impact on cancer therapy / / edited by Sukhes Mukherjee and Jagat Rakesh Kanwar
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ISBN	981-9903-13-0
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Descrizione fisica	1 online resource (XV, 447 p. 1 illus.) : illustrations
Disciplina	050
Soggetti	Anoxemia Cancer Tumor Hypoxia Hypoxia Cell Hypoxia
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1. Hypoxia and its Biological Implications for Cancer Therapy -- Chapter 2. Hypoxia's function in cancer -- Chapter 3. Role of Hypoxia and Reactive Oxygen Species in cancer biology -- Chapter 4. Hypoxic tumor microenvironment: driver for cancer progression -- Chapter 5. Hypoxia and Senescence: Role of Oxygen in Modulation of Tumor Suppression -- Chapter 6. Hypoxia Regulated Gene Expression and Metastasis -- Chapter 7. piRNA based cancer therapy in hypoxic tumor -- Chapter 8. MicroRNA Signatures of Tumor Hypoxia -- Chapter 9. Hypoxia and the Metastatic Cascade -- Chapter 10. Hypoxia and Extra Cellular Matrix-major drivers of tumor Metastasis -- Chapter 11. Role of Hypoxia in Cancer Therapy – Introduction -- Chapter 12. Hypoxic regulation of telomerase gene expression in cancer -- Chapter 13. CRISPR/Cas9-editing-based modeling of tumor hypoxia -- Chapter 14. Tumor-on-a-chip: Microfluidic models for Hypoxic tumor microenvironment -- Chapter 15. Imaging the Hypoxic Tumor microenvironment in cancer models -- Chapter 16. Hypoxia-targeting drugs as new cancer chemotherapy agents Hypoxia-targeting drugs as new cancer chemotherapy agents - Molecular Insights -- Chapter 17.

	Identification of Hypoxia targeting drugs in the tumor microenvironment and prodrug Strategies for Targeting Tumor Hypoxia -- Chapter 18. Hypoxia Induced Apoptosis in Cancer Development -- Chapter 19. Hypoxia in drug resistance and radioresistance.
Sommario/riassunto	This book reviews the central role of hypoxia in cancer initiation and progression. It discusses the mechanisms of hypoxia in chemoresistance, radioresistance, angiogenesis, vasculogenesis, metastasis, metabolic, and genomic instability. It also explores the potential of hypoxia in the diagnosis and treatment of cancer. The book provides an overview of hypoxia imaging, its biological relevance, and mechanism of action. It helps in understanding the molecular mechanisms of the regulation of senescence by hypoxia. It explores the contribution of hypoxia to immune resistance and immune suppression/tolerance and determines the hypoxia-responsive long non-coding RNAs in regulating hypoxic gene expression at chromatin, transcriptional, and post-transcriptional levels. Further, it presents the functional link between hypoxia and miRNA expressions and hypoxia-regulated miRNAs in cancer cell survival in a low oxygen environment. Lastly, it discusses the applications of tumor-on-a-chip technology for the understanding of hypoxia-tumor microenvironment. This book is a valuable source for oncologists and scientists working to understand the role of hypoxia in cancer and therapeutic approaches.