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	Titolo	Frontiers in Cancer Research : Evolutionary Foundations, Revolutionary Directions / / edited by Carlo C. Maley, Mel Greaves
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	Edizione	[1st ed. 2016.]
	Descrizione fisica	1 online resource (XIV, 258 p. 28 illus., 17 illus. in color.)
	Disciplina	614.5999
	Soggetti	Cancer research Pharmacology Cancer Research Pharmacology/Toxicology
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
	Nota di contenuto	1. The Evolutionary Foundations of Cancer Research -- 2. The Role of Theory in Cancer Research -- 3. Population Genetics of Neoplasms -- 4. Diversity in Neoplasms -- 5. How do Mutant Clones Expand in Normal Tissue? -- 6. Cancer Stem Cells in Tumor Evolution -- 7. Measuring Rather than Imagining Somatic Cell Selection and Clonal Evolution -- 8. The Darwinian Dynamics of Motility and Metastasis -- 9. Applying Evolutionary Principles to Cancer Therapy -- 10. Mismatches with Our Ancestral Environments and Cancer Risk -- 11. The Evolution of Cancer Suppression Mechanisms -- 12. Epilogue: How can we Thwart the Evolutionary Resilience of Cancer?.
	Sommario/riassunto	This is the ideal book for anyone contemplating starting a career in, or shifting their career to, studying the dynamics that drive cancer progression and its response to therapy. Topics include the theory and population genetics of cancers, genetic diversity within tumors (intra-tumor heterogeneity), understanding how mutant clones expand in tissues, the role of cancer stem cells in the dynamics of tumors, the evolution of metastasis, and how to improve cancer therapy by addressing the evolution of cancers in response to our interventions. There are also chapters on the patterns of cancer susceptibility in humans due to a mismatch between our modern environment and the

environment in which our ancestors evolved, as well as a chapter on the evolution of cancer suppression mechanisms that have evolved in different species, particularly the large long-lived animals like elephants and whales that are better at suppressing cancers than humans. This book serves as a primer on the evolutionary and ecological theory of cancer- the framework upon which all the details of cancer may be hung. It is ideal for oncologists and cancer researchers interested in evolutionary theory, and evolutionary biologists and ecologists interested in gaining insights into cancer development and prevention. .