

1. Record Nr.	UNINA9911114394403321
Autore	Malviya Rishabha
Titolo	Nano Theragnostics in Breast Cancer : Advances, Challenges, and Future Prospects // edited by Rishabha Malviya, Sathvik Belagodu Sridhar, Musarrat Husain Warsi
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2026
ISBN	981-9536-82-0 9789819536825
Edizione	[1st ed. 2026.]
Descrizione fisica	1 online resource (1352 pages)
Collana	Medicine Series
Altri autori (Persone)	Malviya
Disciplina	616.994 620.5
Soggetti	Cancer Nanomedicine Cancer - Treatment Cancer - Imaging Cancer Nanotechnology Cancer Therapy Cancer Imaging Cancer Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Liquid Biopsy in Early-Stage Breast Cancer -- 2. Breast Cancer Basics: Understanding the Disease and Its Challenges -- 3. Role of Tumour Microenvironment in Metastatic Breast Cancer -- 4. Nanomedicine: A Dual Approach to Diagnosis and Therapy -- 5. Photothermal and Photodynamic Therapy for Using Nanomaterials for Breast Cancer -- 6. Stimuli-Responsive Nanocarriers in Breast Cancer -- 7. The Role of Lasers in Nanotheranostics for Breast Cancer: Diagnostic and Therapeutic Applications -- 8. "Next-Generation SMART Nanocarriers: Impacting Cancer Theranostics Through Controlled Drug Delivery -- 9. Computational Techniques to Design Drugs for Breast Cancer Treatment: From Quantum Mechanics to Molecular Dynamics -- 10. Artificial Intelligence (AI)-Assisted Nanotech Methods for Breast

Cancer -- 11. CARBON NANOTUBES AND GRAPHENE IN BREAST CANCER THERAGNOSTIC -- 12. Nanomedicine in Breast Cancer Therapy: From Molecular Genetics to Smart Therapy Systems -- 13. Intelligent Delivery: Adaptive Nanocarriers for Controlled Breast Cancer Treatment -- 14. High-Performance Nanoscale Technologies to Breast Cancer: Diagnosis and Therapy Techniques -- 15. ADVANCED BIOSENSORS FOR BREAST CANCER DIAGNOSIS -- 16. Quantum Dots and Nano Sensors: Visualizing Tumors at the Molecular Level -- 17. Overcoming Drug Resistance in Breast Cancer Treatment by Nanotechnology -- 18. Artificial Intelligence (AI)-Assisted Treatment of Breast Cancer -- 19. Artificial Intelligence (AI) for Breast Cancer Detection: Trends, Challenges, and Future Directions -- 20. Advancement In Metallic Nanoparticles For Diagnosis and Treatment Of Breast Cancer -- 21. Nano-theragnostic Platforms for Breast Cancer Diagnosis and Therapy: Current Advances, Translational Challenges, and Future Directions -- 22. Recent Developments in Biodegradable Nanoparticles for Detection and Therapy of Breast Cancer -- 23. Nanotheranostics in Hormone Therapy for Breast Cancer -- 24. Magnetic Nanoparticles: Enhancing Imaging and Treatment of Metastatic Breast Cancer -- 25. Psychosocial Aspects of Breast Cancer: Managing the emotional and mental health of patients.

Sommario/riassunto

This contributed volume explores the revolutionary impact of nanotechnology on breast cancer therapy, namely through the pioneering domain of nano-theragnostic. It emphasises the transformation of personalised medicine through the integration of diagnostics and therapy with nanomaterials. It analyses the influence of the tumour microenvironment on cancer advancement, particularly on metastasis. It discusses innovative diagnostic instruments, including sophisticated biosensors and liquid biopsy, that facilitate early diagnosis and accurate monitoring. Innovative therapeutic techniques, such as nanoparticles, liposomes, carbon nanotubes, and quantum dots, are examined for their potential to enhance diagnostic and therapy efficacy. The book highlights the importance of surmounting obstacles such as drug resistance and examines methods like photothermal and photodynamic therapy. The exploration includes the role of AI in improving diagnosis and therapy, as well as the importance of lifestyle modifications and psychological factors in cancer care. This book presents unique insights into the transformative potential of nanotechnology in breast cancer therapy, offering renewed hope for both patients and healthcare professionals. It is an insightful read for researchers, scientists as well as practitioners.
