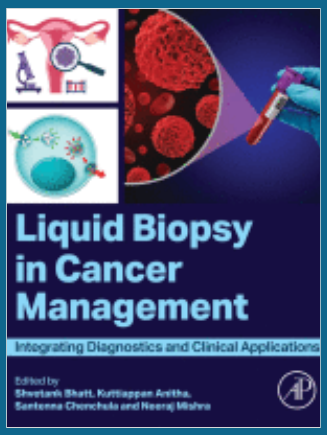
ScienceDirect

Book

# Liquid biopsy in Cancer Management

Integrating Diagnostics and Clinical Applications

**Edited by:** Shvetank Bhatt, Kuttiappan Anitha, ... Neeraj Mishra




Search in book

Book metadata

Share

Purchase book



## About the book

### Key Features

- Empowers clinicians to deliver more personalized and effective cancer care by highlighting the role of liquid biopsy in guiding therapeutic decisions
- Serves as a valuable resource for those looking to integrate liquid biopsy into their clinical practice or research endeavors
- Covers the full spectrum of liquid biopsy applications, from early detection to treatment monitoring and personalized therapy

### Description

*Liquid biopsy in Cancer Management: Integrating Diagnostics and Clinical Applications* provides a comprehensive overview of liquid biopsy, covering its fundamental principles, technological advancements, clinical applications, and future prospects. In 16 chapters, the book focuses both on the practical implications of liquid biopsy in cancer management, and on its role in early detection, treatment monitoring, and personalized therapy. It emphasizes the integration of liquid biopsy into both diagnostic practices and therapeutic strategies, highlighting its potential to transform cancer care. The book discusses the latest research findings and explores future directions in liquid biopsy research, providing readers with a forward-looking view of the field.

It includes case studies and examples to illustrate the clinical utility of liquid biopsy and enhance understanding of its applications. Overall, the book aims to be a comprehensive and authoritative resource on the subject, providing readers with a thorough understanding of the current state and future directions of liquid biopsy in cancer management.

## Table of contents

● *Free access*

Title page, Copyright, Contents, List of contributors

Book chapter ○ Abstract only
Chapter 1 - Introduction to liquid biopsy
Nitish Kumar Tiwary, Anirudhha Pravin Nilkari, ... Shvetank Bhatt
Pages 1-17
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 2 - Liquid biopsy current techniques
Burcu Uner and Ozge Cevik
Pages 19-56
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 3 - Liquid biopsy in Breast Cancer
Gaurav Paraskar, Kuttiappan Anitha, ... Dharani Prasad
Pages 57-84
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 4 - Liquid biopsy in cervical cancer
Harshita Sadhana, Balkishan Ogadram Parihar, ... Awesh K. Yadav
Pages 85-116
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 5 - Liquid biopsy in lung cancer
Swarna Bharathi Kalli, Nagaraju Bandaru and Mohan Gandhi Bonthu
Pages 117-143
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 6 - Liquid biopsy in hepatic cancer
Janhavi Panchal, Rashmi Mallya, ... Manikanta Murahari
Pages 145-169
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 7 - Liquid biopsy in pancreatic cancer: technologies and diagnostic biomarkers
Siddhi Awate, Dhanvi Sheth, ... Ginpreet Kaur
Pages 171-204
Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 8 - Liquid biopsy in prostate cancer
Yuvraj Patil, Nidhita Inamdar and Neha Mulye
Pages 205-234
Purchase View chapter View abstract

Book chapter ○ Abstract only

Chapter 9 - Liquid biopsy in ovarian cancer

Chavan Aditya, Kuttiappan Anitha, ... Tejas Gunjal
Pages 235-259

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 10 - Liquid biopsy in gastric cancer

Kumudini Sahoo, Chandra Sekhar Barik and Sidhartha S. Kar
Pages 261-285

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 11 - Liquid biopsy: a precision tool for early detection and management of bone malignancies

S.B. Sai Krishna, Shweta Yadav, ... Pratima Tripathi
Pages 287-328

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 12 - Liquid biopsy in skin cancer

Vivek Bakshi, Shashwat Pandey and Nimisha
Pages 329-356

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 13 - Challenges and limitations of liquid biopsy in precision oncology

Deepshi Arora, Moin Jahangir, ... Rakesh Pahwa
Pages 357-372

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 14 - Applications of liquid biopsy in translational oncology

Rohan Ingawale, Sharad Chand, ... Rohit Singh
Pages 373-403

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 15 - Liquid biopsy in clinical practice: current evidence and future directions

Santenna Chenchula, Gaurav Paraskar, ... Madhavrao Chavan
Pages 405-438

Purchase View chapter View abstract

Book chapter ○ Abstract only
Chapter 16 - Liquid biopsy and artificial intelligence as tools to detect colorectal cancer

Shyam Sudhakar Gomte, Dimpal Suthar, ... Aakanchha Jain
Pages 439-474

Purchase View chapter View abstract

Book chapter ● *Free access*
Index

Pages 475-482

View PDF View chapter

## Editor(s)

### Shvetank Bhatt

School of Health Sciences & Technology, Dr. Vishwanath Karad MIT World Peace University, Pune, Maharashtra, India

### Kuttiappan Anitha

Department of Pharmacology, School of Pharmacy and Technology Management (SPTM), SVKM's Narsee Monjee Institute of Management Studies (NMIMS), Deemed-to-be-University, Dhule, Maharashtra, India

### Santenna Chenchula

Department of Pharmacology, AIIMS Bhopal, Bhopal, Madhya Pradesh, India

### Neeraj Mishra

Amity Instiute of Pharmacy, Amity University, Gwalior, Madhya Pradesh, India

## Copyright

Copyright © 2026 Elsevier Inc. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

ELSEVIER

All content on this site: Copyright © 2026 Elsevier B.V., its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies. For all open access content, the relevant licensing terms apply.

RELX™

ScienceDirect

Liquid biopsy in Cancer Management
Integrating Diagnostics and Clinical Applications

2026, Pages 287-328

# Chapter 11 - Liquid biopsy: a precision tool for early detection and management of bone malignancies

S.B. Sai Krishna [1 2], Shweta Yadav [3], Adhrit Chandra Pati Tripathi [4], Pratima Tripathi [5 6]

Show more

Outline | Share Cite

https://doi.org/10.1016/B978-0-443-27496-1.00005-1 ↗
Get rights and content ↗

## Abstract

Noninvasive liquid biopsies represent a transformative approach in bone cancer diagnostics, offering a minimally invasive, real-time alternative to traditional tissue biopsies. Bone cancer, particularly osteosarcoma, is often diagnosed at advanced stages due to the challenges of accessing bone tissues for biopsy. Liquid biopsies, which analyze circulating tumor cells, cell-free DNA, and other biomarkers in blood or other bodily fluids, provide a breakthrough in early detection and monitoring of bone cancers. Liquid biopsies enable the detection of genetic mutations, epigenetic changes, and tumor-specific alterations in a patient's bloodstream, reflecting the current state of the disease. Unlike traditional biopsies that require surgery, liquid biopsies can be performed frequently, offering continuous monitoring of tumor progression, treatment efficacy, and potential recurrence. This is particularly important in bone cancers, where conventional biopsies are often painful, risky, and not always feasible due to the location of the tumor.

Moreover, liquid biopsies hold potential in personalized medicine. By analyzing the genetic landscape of the cancer in real-time, physicians can tailor treatments based on specific molecular alterations, optimizing therapy and minimizing side effects. Liquid biopsies also show promise in identifying minimal residual disease, potentially allowing for earlier intervention in cases of relapse. Despite their potential, liquid biopsies in bone cancer diagnostics face challenges such as sensitivity, specificity, and standardization of methods. However, ongoing research and technological advancements are rapidly improving their accuracy and reliability.

In conclusion, noninvasive liquid biopsies mark a new era in bone cancer diagnostics, providing a less invasive, more dynamic, and personalized approach to disease detection and management, with the potential to significantly improve patient outcomes.

## References (0)

Cited by (0)

View full text

Copyright © 2026 Elsevier Inc. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

ELSEVIER

All content on this site: Copyright © 2026 Elsevier B.V., its licensors, and contributors. All rights are reserved, including those for text and data mining, AI training, and similar technologies.
For all open access content, the relevant licensing terms apply.

RELX™