EARLY CANCER DETECTION TESTING COMPANY OF THE YEAR 2025

Awarded By

Life Sciences Review

OncoSure Testing

For Partners and Doctors

ULTRA-FAST DETECTION OF 200+ HUMAN CANCERS USING A SIMPLE BLOOD DRAW

WWW.GENTOGENTESTING.COM

CLINICAL DISCLAIMER & RESULT INTERPRETATION

OncoSure analyzes the presence of **oncosomes (tumor-derived extracellular vesicles)** in the blood. Oncosomes are considered **an indirect biomarker of tumor activity** and do not constitute definitive proof of the presence or absence of malignancy.

Higher oncosome levels may be associated with **probable or active tumor activity**, while **low oncosome levels (≤46)** are generally associated with **low biological tumor activity**.

An oncosome value of **≤46** may indicate:

- Very low tumor burden
- Biologically inactive or quiescent disease
- Effective disease control related to therapy
- In some cases, microscopic or dormant disease

While a low oncosome result represents an excellent biological response, it **should not be interpreted as confirmation of complete cancer eradication**. Very low oncosome levels may still occur in the presence of dormant tumor cells, biologically silent disease, or certain metastatic sites (including bone) that may shed fewer extracellular vesicles. Additionally, OncoSure's assay does not demonstrate 100% sensitivity (OncoSure demonstrates a reported sensitivity of **98.44%**).

OncoSure results are intended to be **interpreted in clinical context** and correlated with additional diagnostic and monitoring tools, including but not limited to:

- PSA trends (trend analysis is more informative than isolated values)
- Advanced imaging such as PSMA PET
- Therapeutic context and treatment history
- Longitudinal testing over time (serial testing over a 180-day interval is recommended for trend evaluation)

A pattern of **low oncosome levels combined with stable PSA values and unchanged imaging findings** is consistent with **well-controlled disease**.

Key clinical takeaway: Oncosome levels ≤46 are compatible with deep remission or disease quiescence but do not constitute absolute proof of disease absence.

BACKGROUND

Cancer is genetic, developing either sporadically or through inheritance. It's marked by abnormal chromosome numbers compared to normal cells (46). There are two main types: solid tumors and blood cancers. Traditionally, detecting cancer uses invasive and expensive “Gold standard” methods such as MRI, CT, and PET scans, often finding it at a more advanced stage, when many cells have already accumulated.

PET scans can detect tumors as small as 5mm in diameter. A tumor measuring 1 cubic centimeter (1 cm^3) is commonly assumed to contain approximately 1 billion cells (10^9 cells). Therefore, a tumor with a diameter of 5 mm (which equates to a volume of about 0.065 cm^3) would contain roughly 65 million cells. It takes roughly 65 million cells to form a small nodule that a PET scan can detect.

UNMET NEED: There is an urgent need for the medical community and humanity in general to detect cancers at a much earlier stage, so proper treatment can begin much sooner.

WHAT IS ONCOSURE TESTING?

Covers 200+ human cancers

Screens for solid tumors and blood cancers with a simple two-tube blood draw.

Ultra-early detection

finds cancer at stage -1, even before symptoms appear.

Minimally-invasive, affordable, accessible

no expensive scans or hospital visits.

Lightning-fast results

24 to 48 hours turnaround (next-day results Monday–Friday; weekend arrivals may take slightly longer).

Smaller blood sample, bigger reach

Uses plasma-based liquid biopsy and fluorescent microscopy to detect oncosomes (extracellular vesicles that mimic the parental tumor cell)

*$995 without insurance

Test Screening Accuracy

	Clinical Positive	Clinical Negative	TOTAL
Oncosome Positive	254	8	262
Oncosome Negative	4	273	277
TOTAL	4	273	277

Attribute	Formula	Actual Value
Sensitivity	True Positives / True Positives + False Negatives	**98.44%**
Specificity	True Negatives / True Negatives + False Positives	**97.15%**
Accuracy	True Positives + True Negatives / Total Samples	**97.77%**

Current Cancer Treatment Monitoring Accuracy: 99.9%

MONITORING PATIENT TREATMENT

How It Works

OncoSure detects levels of tumor-associated antigens in the blood.

- If levels go down during treatment, that can be a sign that therapy is working.
- If they rise, it may suggest persistent disease or recurrence.

Primary Use

Monitoring cancer after diagnosis

Application

Evaluating treatment response and detecting recurrence

Testing schedule

Baseline prior to therapy, then repeated approximately every 35 days

Detection Power

OncoSure can detect Oncosomes in **207 cancers** — **98.9%** of all cancers — with a simple 3 ml blood draw.

Real-Time Results

Oncosure gives you and your team to the ability to track the patient's treatment in real time and see results fast and accurately

OncoSure provides oncologists with a reliable blood-based tool to monitor treatment response and detect recurrence earlier, helping guide timely decisions in patient care.

WHAT ARE ONCOSOMES?

Oncosomes are extracellular vesicles that are often associated with cancer cells, but they are not exclusive to them.

Role in Cancer

Carry molecular cargo (proteins, RNAs, lipids) that can promote:

- Tumor growth
- Metastasis (cancer spread)
- Immune system evasion

Cells other than cancer cells, such as those involved in inflammation, can also produce extracellular vesicles with similar properties.

Clinical Relevance

- Frequently associated with cancer but present in various biological conditions.
- Serve as key biomarkers for early cancer detection, as identified through OncoSure testing.

Several factors can cause or contribute to the presence of oncosomes in the bloodstream:

Tumor Growth and Cell Shed	As tumors grow, some cancer cells can break off from the primary tumor, releasing oncosomes into the bloodstream. This is a common mechanism in cancers like prostate cancer, breast cancer, and glioblastoma.
Invasion and Metastasis	Oncosomes can aid in the metastatic spread of cancer cells. Cancer cells shed these vesicles as part of their ability to invade surrounding tissues, and they may facilitate the spread of tumor markers and molecular signals that promote metastasis to other organs.
Inflammatory Response	The inflammation surrounding tumors can trigger the release of oncosomes. Inflammatory cytokines and immune cells may promote the shedding of these vesicles as part of the body's immune response to cancer.
Hypoxia	In areas of the tumor where oxygen levels are low (hypoxic conditions), cancer cells can release more oncosomes. Hypoxia can activate specific cellular pathways that promote vesicle release.
Cell Stress	Oncosomes can also be a byproduct of cellular stress within the tumor, including oxidative stress and nutrient deprivation, or triggered by other environmental factors that cause cell death or damage.
Cancer Therapy	Certain cancer treatments, like chemotherapy and radiation, can lead to the release of oncosomes, as they cause tumor cells to undergo stress or apoptosis (programmed cell death), releasing these vesicles into the bloodstream.

ONCOSOMES IN CANCER AND TREATMENT RESPONSE

Oncosomes serve as non-invasive biomarkers detectable in blood ("liquid biopsy") and reflect tumor activity, progression, and response to therapy

Feature	Normal Vesicles	Cancer Oncosomes
Size	30 - 1,000 nm	Up to 10um (larger)
Cargo	Normal proteins & RNAs	Oncogenic DNA, tumor-promoting RNAs
Function	Repair, communication	Tumor spread, immune suppression
Clinical Use Limited		Biomarker for diagnosis & treatment monitoring

Effect of Treatment

Chemotherapy

- Initial spike in oncosomes (stress response)
- Decline if treatment is effective
- Stay high or rise if treatment is ineffective

Radiation

- Early spike (DNA damage response)
- Gradual decline if tumor controlled
- Persistently high counts = treatment resistance

Timeline of Oncosome Counts

Before Treatment:	Baseline levels
Early Treatment:	Spike in release
Effective Response:	Decline as tumor shrinks
Ineffective Response:	Remain high or increase

Bottom Line

Oncosomes = **Real-time indicators** of tumor biology

Rising counts → **Stress or progression**

Falling counts → **Effective treatment**

Strong potential for **precision oncology** and **treatment monitoring**

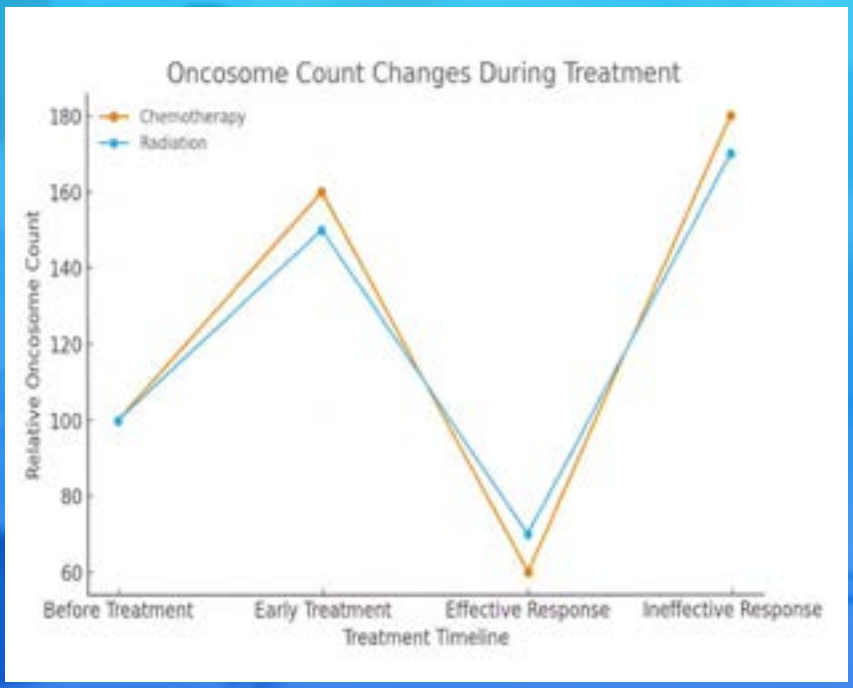
NORMAL VESICLES VS. CANCER-DERIVED ONCOSOMES

This report provides a structured comparison between normal extracellular vesicles (EVs) and cancer-derived oncosomes. It also explains how chemotherapy and radiation treatments influence oncosome release and levels.

Oncosomes are increasingly studied as non-invasive biomarkers, detectable in blood samples, that may help track cancer progression and treatment effectiveness in real time.

Feature	Normal Vesicles	Cancer Oncosomes
Who produces them?	All healthy cells	Cancer cells (especially aggressive tumors)
Size	Exosomes: 30-150 nm Microvesicles: 100-1,000 nm	Large Oncosomes: 1-10 um
Molecular Cargo	Normal RNAs, proteins for repair	Oncogenic DNA, mutated proteins, tumor-promoting RNAs
Surface Markers	CD63, CD81, CD9	Tumor antigens (EpCAM, PSA, MUC1, HER2, EGFRvIII, etc.)
Function	Communication, repair, immune regulation	Tumor spread, angiogenesis, immune suppression

Treatment Effects on Oncosome Counts



Treatment: Chemotherapy

Minimal impact on normal vesicles. Temporary spike in oncosomes (stress response); decrease if treatment is normal.

Treatment: Radiation

Damaged tissues may release some vesicles (inflammaory). Temporary spike (DNA damage response); decrease if tumors are controlled

Summary & Conclusion

Both normal cells and cancer cells release extracellular vesicles, but cancer-derived oncosomes are larger and carry oncogenic mutations and tumor-promoting signals.

Tracking oncosome levels offers a powerful non-invasive tool for cancer diagnosis and monitoring.

Chemo and radiation usually cause an initial rise in oncosome counts, followed by a decline if treatment works.

Persistently high or rising counts may signal treatment resistance or ongoing tumor activity.

Overall: Oncosomes are a promising biomarker for precision oncology, giving real-time insights into tumor behavior and therapeutic effectiveness

ONCOSOME PRODUCTION ACROSS HUMAN CANCERS

There are 200+ cancers that produce oncosomes (tumor-derived extracellular vesicles carrying oncogenic cargo). While the amount and content vary, production appears to be a universal feature of malignant transformation.

Carcinomas (lung, breast, prostate, colon, pancreas, liver, ovarian, stomach, etc.)	
Oncosome Production	Yes
Research Strength	Strong
Sarcomas (bone, soft tissue, muscle)	
Oncosome Production	Yes
Research Strength	Moderate
Hematologic cancers (leukemia, lymphoma, myeloma)	
Oncosome Production	Yes
Research Strength	Moderate–Strong
CNS tumors (glioblastoma, medulloblastoma, astrocytoma)	
Oncosome Production	Yes
Research Strength	Strong

Neuroendocrine tumors	
Oncosome Production	Likely
Research Strength	Limited
Germ cell tumors (testicular, ovarian)	
Oncosome Production	Likely
Research Strength	Emerging
Rare cancers (thymic, adrenal, mesothelioma, etc.)	
Oncosome Production	Probable
Research Strength	Sparse data

Key Insights

- Cancer cells produce vesicles more abundantly than normal cells (10–100x more).
- Oncosomes carry oncogenic DNA, RNA, and proteins specific to tumor cells.
- Even pre-malignant lesions may produce vesicles, but only malignant vesicles contain tumor-specific oncogenic cargo.
- Oncosome release is universal across human cancers studied, though characterization varies.

Conclusion

Over 200+ human cancers release oncosomes. The difference lies in quantity and
molecular content, with well-studied cancers showing clear oncogenic vesicle profiles,
while rare or less-studied cancers are inferred to have similar vesicle activity

CANCERS KNOWN TO PRODUCE ONCOSOMES

Prostate Cancer	
Cargo	AKT1, Src, AR, c-Myc, integrins
Role	Promotes metastasis, stromal reprogramming, and AR signaling.
Glioblastoma (Brain Cancer)	
Cargo	EGFRvIII, PD-L1, miR-21
Role	Spreads oncogenic signaling, enhances invasiveness.
Breast Cancer	
Cargo	HER2, p53, miR-105, miR-373
Role	Increases vascular permeability and immune evasion.
Pancreatic Cancer	
Cargo	KRAS G12D, GPC1, miR-17-5p
Role	Promotes metastasis, prepares pre-metastatic niches.
Colorectal Cancer	
Cargo	KRAS, β-catenin, Myc, miR-1246
Role	Stimulates angiogenesis and tumor progression.

Ovarian Cancer	
Cargo	Mutant p53, EpCAM, CA-125, miR-200 family
Role	Drives metastasis and chemoresistance.

Melanoma	
Cargo	BRAF V600E, NRAS, PD-L1, MMPs
Role	Immune suppression, metastatic signaling.

Bladder Cancer	
Cargo	EGFR, ERBB2, RAB27b, miR-221
Role	Tumor microenvironment modulation.

Head and Neck Squamous Cell Carcinoma (HNSCC)	
Cargo	EGFR, miR-21, miR-24-3p, HPV-E6/E7 RNAs
Role	Angiogenesis, immune evasion.

Hepatocellular Carcinoma (Liver Cancer)	
Cargo	miR-122, miR-21, VEGF, TGF-β
Role	Promotes angiogenesis, fibrosis, immune modulation.

CANCERS KNOWN TO PRODUCE ONCOSOMES

Esophageal Cancer	
Cargo	miR-21, miR-1246, EGFR, HSP70
Role	Enhances invasiveness, therapy resistance.

Renal Cell Carcinoma (Kidney Cancer)	
Cargo	VHL, HIF1A, CA9, miR-210
Role	Regulates hypoxia pathways and angiogenesis

Thyroid Cancer	
Cargo	BRAF V600E, miR-146b, miR-222
Role	MAPK activation, immune evasion.

Endometrial Cancer	
Cargo	PI3KCA, KRAS, miR-27a
Role	Proliferation and metastasis

Cervical Cancer	
Cargo	HPV-E6/E7 RNA, miR-21, PD-L1, TGF-β1
Role	Immune evasion, cell transformation.

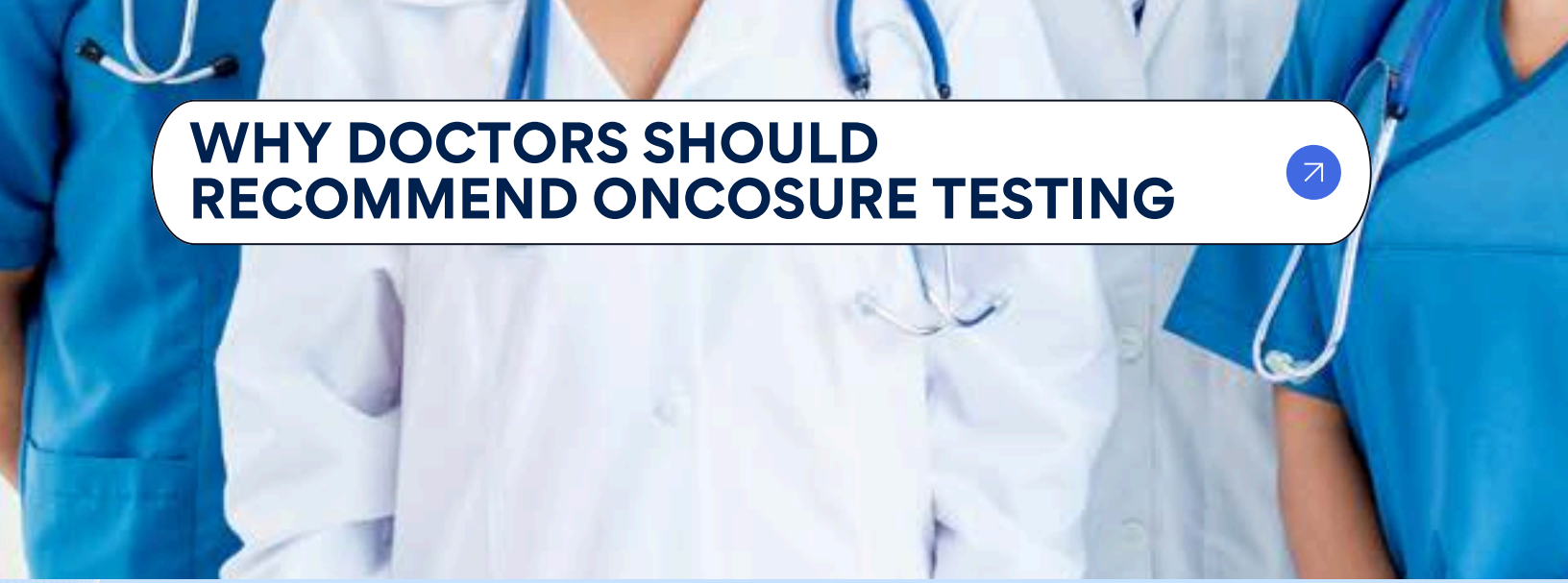
Leukemia and Lymphoma	
Cargo	BCR-ABL1, MYC, miR-155
Role	Alters bone marrow niche, promotes proliferation.

Nasopharyngeal Carcinoma	
Cargo	LMP1 (EBV oncogene), miR-24-3p, miR-2
Role	Immune escape and metastasis.

Sarcomas (Osteosarcoma, Ewing's, Liposarcoma)	
Cargo	Fusion genes (EWS-FLI1), pro-angiogenic factors
Role	Modulates bone and vascular remodeling.

Gastric (Stomach) Cancer	
Cargo	KRAS, PI3K, miR-423-5p, miR-130b
Role	Induces epithelial-mesenchymal transition (EMT).

Lung Cancer (NSCLC/SCLC)	
Cargo	EGFR, KRAS, ALK, PD-L1, miR-21, miR-210
Role	Drug resistance, immune suppression.



WHY DOCTORS SHOULD RECOMMEND ONCOSURE TESTING

Early Detection & Risk Assessment

- Oncosure testing identifies cancer-associated **oncosomes and biomarkers** circulating in the blood
- Provides a **non-invasive early warning system,** often before symptoms or imaging changes appear
- Enables doctors to **intervene earlier**, improving patient outcomes

Non-Invasive Testing Advantages

- Unlike biopsies, which are invasive and carry risks, Oncosure is based on a **simple blood draw**
- Can be repeated frequently without burden to the patient
- Minimizes complications, recovery tie and patient anxiety

Timeline of Oncosome Counts

- Tracks **oncosome counts and cargo** during chemotherapy or radiation
- Detects whether treatment is working:

  Declining levels → Tumor responding
  Rising/persistent levels → Resistance or progression
- Provides insights **weeks to months earlier** than imaging or symptoms

Precision Medicine Tool

- Helps personalize therapy by showing how each individual's tumor responds
- Reduces unnecessary exposure to ineffective drugs or treatments
- Guides oncologists in adjusting treatment plans promptly

Improved Patient Experience

- Less invasive and stressful compared to repeated biopsies or scans
- Offers **rapid results**, giving patients and doctors timely aswers
- Enhances **patient confidence and engagement** in their treatment journey

Clinical Value for Physicians

- Supports evidence-based decision-making
- Adds a valuable tool for **risk stratification, diagnosis, and prognosis**
- Differentiates physicians and clinics as being **at the forefront of innovative cancer care**

Contact Us

OncoSure offers blood-based molecular and pharmacogenomic (PGx) testing designed to provide actionable biomarker insights that assist clinicians in identifying cancer-related signals, understanding medication response, and informing next steps in patient evaluation.

info@gentogentesting.com

www.gentogentesting.com

1-888-505-5802

Corporate Headquarters and Local Blood Draw Address:
1100 Park Central Blvd S
Suite 1700
Pompano Beach, FL 33064