At Exosome Diagnostics, we are focused on developing and commercializing innovative, biofluid-based diagnostics to deliver personalized, precision healthcare that improves lives. We offer the industry’s most versatile biofluid-based technology platform. Using this technology, we are developing a suite of sophisticated liquid biopsy tests that we believe will provide the most accurate, sensitive molecular information about numerous cancers, transforming the way the disease is detected, diagnosed, treated, and monitored.

**EXOSOMAL RNA ANALYSIS**

Our liquid biopsies in development leverage the rich molecular information found in exosomal RNA (exoRNA). We can analyze stable, high-quality exoRNA to detect cancer mutations, such as gene arrangements and splice variants, which are difficult or impossible to detect utilizing circulating DNA analysis.

**First and Only Combined exoRNA + cfDNA Analysis**

We are the first and only company that can simultaneously isolate and analyze exoRNA + cell-free DNA (cfDNA) in a single step to achieve the highest sensitivity for detecting rare cancer mutations.

**AVAILABLE FOR ORDERING IN 2015:**

**BLOOD- AND URINE-BASED LIQUID BIOPSY TESTS**

**EML4-ALK and T790M Lung Cancer Tests:**

- **EML4-ALK test:** Analyzes stable, high-quality exoRNA to detect the EML4-ALK mutation and specific associated RNA fusion transcripts
- **T790M test:** Simultaneously analyzes exoRNA + cfDNA in a single step to enhance sensitivity of detection of this low-abundance mutation, which can often be missed when analyzing cfDNA alone

**Prostate Cancer Test:**

- Helps to identify men who are least likely to have high-grade prostate cancer and who may be able to avoid unnecessary tissue biopsy.
- Using a proprietary algorithm that integrates a three-gene signature on exoRNA, the test assigns an individual risk score.
- Large clinical validation study completed (NPV = 91%)

**Solid Tumor Panel:**

- Targets actionable mutations in the most significant pathways of cancer, including EGFR, MAPK and PI3K; analyzes exoRNA + cfDNA
- Covers 26 of the most important genes and 1000 associated mutations
- Initially available to pharma companies as a clinical development tool

**MUTATION DETECTION**

**SCREENING**

*Prostate Cancer Test:*
AN IMPORTANT NEW APPROACH FOR GAINING MOLECULAR INSIGHTS

Given the need for and increasing availability of targeted cancer therapies, molecular diagnostics are becoming an integral component of patient care. These diagnostics inform the most appropriate treatment approaches, helping physicians match patients to approved therapies or potential ongoing clinical trials.

Our diagnostics in development do not rely on analyzing tissue. Instead, they can extract comprehensive molecular information, including RNA and DNA, from exosomes carried in biofluids. Gaining access to molecular information about cancer from biofluids without needing direct access to the tissue itself will have far-reaching implications in the treatment of cancer.

These diagnostics will be invaluable tools for clinicians – yielding critical molecular insights through serial, longitudinal monitoring as a complement to tissue biopsy or an important alternative when tissue biopsy is not practical or possible.
KEY ADVANTAGES OF OUR EXOSOME-ENABLED DIAGNOSTICS

- Combine RNA and DNA; can utilize fresh or frozen/archived biofluid samples
- Enable detection of fusion transcripts, splice variants and other RNA-based biomarkers
- Complement tissue biopsy for enhanced mutation detection and serial, longitudinal monitoring
- Enable molecular analysis when tissue biopsy is impractical or impossible; can help avoid unnecessary tissue biopsies
- Access fluids more easily (vs. an invasive surgical procedure)
- Enable a comprehensive understanding of molecular makeup; a tissue sample may not reflect the heterogeneity of all cells in a tumor
- Leverage routine sample handling to easily fit into clinical lab workflow
- Enhance access to cost-effective diagnostics and healthcare
- Enable more informed, individualized treatment decisions

COMBINING exoRNA + cfDNA: SUPERIOR MUTATION DETECTION

Data have demonstrated that single capture and analysis of exoRNA + cfDNA from plasma:
- Detected actionable mutations (KRAS, BRAF and EGFR) in various cancers, such as melanoma, colorectal and lung cancer
- Increased detectable rare mutations in cancer patients versus cfDNA only

VARYING CAPABILITY AND UTILITY AMONG BIOFLUID-BASED DIAGNOSTIC TECHNOLOGIES

With the field of biofluid-based diagnostics poised to rapidly expand in the near-term, it is critical for physicians to understand important differences in the underlying technologies of these tests.

<table>
<thead>
<tr>
<th>TOP-LINE COMPARISON</th>
<th>Exosome Dx’s Platform (exoRNA/DNA + cfDNA)</th>
<th>Cell-Free DNA (cfDNA)</th>
<th>Circulating Tumor Cells (CTCs)</th>
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<tbody>
<tr>
<td>ANALYSIS CAPABILITY</td>
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<tr>
<td>Combines exosomal RNA and DNA (exoRNA/DNA) with cfDNA for increased mutation detection sensitivity</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Detects fusion transcripts, splice variants and other RNA biomarkers</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Detects stromal, inflammatory response and other systemic disease changes</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Enables analysis of RNA, DNA, and protein profiles from tumor cells</td>
<td>✓</td>
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<tr>
<td>CLINICAL APPLICATION</td>
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<tr>
<td>Simple workflow of sample acquisition, handling and processing</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Enables extraction from fresh and biobanked samples</td>
<td>✓</td>
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About Exosome Diagnostics

Exosome Diagnostics is focused on developing and commercializing revolutionary, biofluid-based diagnostics to deliver personalized, precision healthcare that improves lives. We aim to deliver comprehensive and dynamic molecular insights to transform how cancer and other serious diseases are detected, diagnosed, treated, and monitored. Our corporate headquarters and research laboratory are located in Cambridge, Mass. Our European headquarters and development laboratory are located in Munich, Germany.

For more information, please visit www.exosomedx.com.

“Fueled by the highly sensitive mutation detection of exosomal RNA, our diagnostics will help inform treatment decisions based on patients’ individual molecular profiles, leading to enhanced care.”

Vincent J. O’Neill, MD, MRCP
Chief Medical Officer
Exosome Diagnostics, Inc.

Scientific & Clinical Leadership

Exosome Diagnostics is led by a team of seasoned, highly respected leaders in academic research, clinical diagnostics, biopharma, and personalized medicine. They are applying their knowledge of exosome biology, disease pathology and molecular medicine to advance diagnostics that will be highly effective tools for physicians, helping inform treatment decisions and enhance patient care. Key scientific and medical leadership includes:

Johan Skog, PhD
Chief Scientific Officer and Founding Scientist

• Pioneered breakthrough discoveries about exosomes and other microvesicles and their vital role as cell messengers and disease proliferators
• While at Massachusetts General Hospital/Harvard Medical School, discovered that tumor-derived mutations can be detected in exosomal RNA from serum and other biofluids; findings were published in Nature Cell Biology in 2008
• Continues to pioneer critical advancements in diagnostics and expand the field of exosome biology

Vincent J. O’Neill, MD
Chief Medical Officer

• Medical oncologist with background in molecular pathology and translational research
• More than 10 years’ product development experience, both therapeutic and diagnostic, spanning all development phases
• Previous roles include global head of personalized medicine at Sanofi Oncology; Group Director at Genentech, instrumental in expanding Avastin® and Tarceva® approvals; and Director, Clinical Head of Discovery Medicine at GlaxoSmithKline