



Key Genes Associated with Cancer Found in Circulating Blood Microvesicles

A study published in Nature Communications by researchers at Massachusetts General Hospital/Harvard Medical School shows that tumor microvesicles contain retro-transposons, also known as "jumping genes" as well as amplified oncogene sequences. These discoveries expand further on the use of microvesicles such as exosomes as a powerful blood-based cancer diagnostic medium.

New York, NY; Munich, Germany; February 3rd, 2011 – Exosome Diagnostics Inc., a developer of body fluid molecular diagnostics today announced that a team led by Dr. Johan Skog has published new findings showing that microvesicles shed in circulation contain powerful genetic elements, called retrotransposons, associated with cancer cell growth (www.nature.com/ncomms/index.html). Dysregulation of retrotransposons has been observed in many different types of cancer cells. They have also been known as "jumping genes" for their ability to copy themselves and insert into new places of the genome. The presence of retrotransposons in microvesicles gives them a mechanism for horizontal gene transfer to adjacent cells.

The research team also revealed that when tumors have amplification of certain oncogene sequences like c-Myc, this is reflected in the microvesicles isolated from the blood. "Increased levels of the oncogene c-Myc has been shown to play a role in cancer tumor progression and is typically associated with poor prognosis in medulloblastomas, the most common malignant brain tumor in children" says the first author Leonora Balaj at Massachusetts General Hospital.

Together, these findings expand the nucleic acid content of tumour microvesicles to include: elevated levels of certain coding and non-coding RNA and DNA, mutated and amplified oncogene sequences and transposable elements.

"This research could have significant implications for diagnosis and ongoing management of cancers," said Dr. Skog, lead author on the paper and now Director of Research at Exosome Diagnostics. "The extensive variety of oncology biomarkers found in microvesicles can help enable diagnosis of disease, and provide insights to the precise mechanisms at play through disease progression in a particular patient."

Exosome Diagnostics is developing a number of high-sensitivity blood and urine based molecular diagnostic tests from exosomes and other microvesicles with a focus on key gene expressions and mutations that can be targeted in therapeutic intervention and monitoring of disease recurrence. Detection of key genetic biomarkers in patient blood and urine samples is challenging because of the need for high sensitivity against a background of normal cellular DNA and RNA. Microvesicles contain DNA and RNA from the cell of origin, and because they efficiently store and protect their DNA and RNA, microvesicles

released into the circulation can provide a window into the genetic profile of an individual's tumour or other disease condition.

Exosome Diagnostics is developing exosome body fluid molecular diagnostic technology on different laboratory instrument platforms, including qPCR and sequencing for use as both laboratory developed tests in CLIA certified laboratories and as regulated in-vitro diagnostic kits.

Notes to editors

About Exosome Diagnostics , Inc.

Exosome Diagnostics, Inc. is a developer of proprietary body-fluid based molecular diagnostic tests. Exosome was formed in May of 2008 following completion of a world-wide exclusive technology license from Massachusettes General Hospital. The Company's core technology is based on the discovery that circulating microvesicles, including exosomes, contain a broad array of genetic biomarkers that can be reliably harvested from blood and urine and used diagnostically. In May 2010, the Company raised \$20m in a series A financing. Exosome is headquartered in New York, NY, and has a European subsidiary Exosome Diagnostics GmbH in Munich, Germany. For more information, please visit www.exosomedx.com

Contact:

Exosome Diagnostics

College Hill Life Sciences
Adam Michael, Gemma Howe
Exosome@collegehill.com
+44 20 7866 7861