Subject: News from Hope Funds – Fellow's Appointment at Whitehead Institute

From: Hope Funds (media@hope-funds.org)

To: leahcann@att.net;

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Hope Funds for Cancer Research

Press Release

Announces Appointment at the Whitehead Institute of Hope Funds Fellow

For Immediate Release
Media Contact:
Arden Scura
401-847-3286
media@hope-funds.org

Newport, RI - May 20, 2014 - In April, Hope Funds Fellow, Dr. Elizaveta Freinkman was appointed manager of the recently established metabolite profiling core facility at the Whitehead Institute at MIT. The metabolite profiling facility collaborates with researchers at the Whitehead Institute and beyond whose studies require the measurement of small molecule metabolites in biological samples, such as cells, media, serum, and tissues.

I find it remarkable for such a young researcher, this early in her career, to receive such a prestigious appointment, says David Garrett, a Hope Funds for Cancer Research Trustee, "We are honored to have supported Dr. Freinkman's early work."

In addition to performing routine analyses, the metabolite profiling facility develops new LC/MS methods for molecules that are not well detected by existing methods; consults with researchers on experiment design and sample preparation; and performs data analysis.

About Elizaveta Freinkman, Ph.D.
Dr. Freinkman joined the laboratory of David Sabatini, M.D., Ph.D. at the Whitehead Institute in 2012, as a postdoctoral Fellow, after receiving her Ph.D. in Chemical Biology from Harvard University. While at Harvard, Dr. Freinkman was honored as the Hertz Foundation Graduate Fellow. She received an M.S., B.S in Molecular Biophysics and Biochemistry from Yale University in 2007.

Lisa received a Hope Funds for Cancer Research Fellowship in 2013. Her project explored the observation that many of the diverse metabolic enzymes expressed in the normal pancreas are absent in PDAC cells. Her worked studied which of these metabolic changes specifically promote the process of malignant transformation, as well as how this occurs. Recent research has revealed numerous differences between the metabolism of cancerous and normal cells. Many of these changes are known to support cancer cells' accelerated growth and proliferation, but a previously unexplored question was whether certain metabolic processes are specifically required

for cancer cells to become aggressive - a state defined by increased drug resistance and the ability to metastasize to distant sites. Another researcher in her laboratory recently discovered that a metabolic enzyme called DPYD is required for laboratory-grown breast cancer cells to become aggressive. However, it was not known how DPYD affects the metabolism of these cells, or whether these metabolic changes - as opposed to some other effect of DPYD - are what enables the aggressive state. To address this problem, she developed an experimental technique, using state-of-the-art instruments recently acquired by her research institute, to measure the molecules consumed and produced by DPYD. This allowed her to show that DPYD's products are required for breast cancer cells to become aggressive, suggesting that inhibiting DPYD is a potential therapeutic strategy to limit tumor drug resistance and metastasis.

About Whitehead Institute

Whitehead Institute is a world-renowned non-profit research institution dedicated to improving human health through basic biomedical research. Wholly independent in its governance, finances, and research programs, Whitehead shares a close affiliation with Massachusetts Institute of Technology through its faculty, who hold joint MIT appointments. For more than 30 years, Whitehead faculty have delivered breakthroughs that have transformed our understanding of biology and accelerated development of therapies for such diseases as Alzheimer's, Parkinson's, diabetes, and certain cancers. Located in Cambridge, Massachusetts, Whitehead Institute was founded in 1982 by businessman and philanthropist Edwin C. "Jack" Whitehead, who was driven by a single vision: to assemble a cadre of the world's finest biomedical researchers under one roof and eliminate virtually any impediment to their pursuit of scientific discovery. Whitehead is home to 17 principal investigators focused on biology's most fundamental questions. Whitehead scientists run pioneering programs in cancer research, immunology, developmental biology, stem cell research, regenerative medicine, genetics, and genomics. Less than a decade after its founding, it was named the top research institution in the world in molecular biology and genetics, and over a recent 10-year period, papers published by Whitehead scientists had more impact in molecular biology and genetics than those from any of the 15 leading research universities and life sciences institutes in the United States.

About Hope Funds for Cancer Research

The Hope Funds for Cancer Research was formed in 2006 by a group of concerned individuals who have experience in oncology, intellectual property law, investment banking, philanthropy, sociology, and the arts to establish a funding vehicle that would take a rational scientific, medical, and investment approach to granting money to the most interesting and promising research efforts to address the most difficult-to-treat cancers, including pancreatic, lung, liver, sarcomas, esophageal, brain, gastric, and ovarian cancers. These cancers are insidiously aggressive illnesses that kill most of their victims within months, even with aggressive chemotherapy. The Trustees of the Hope Funds for Cancer Research believe that funding research that could lead to breakthroughs in these areas and increase life expectancy in these types of cancers is at the core of our mission. The Hope Funds for Cancer Research is a 509 (a)(1) charity under 501(c)(3) of the Internal Revenue Service's code. For additional information about the organization, please visit http://www.hope-funds.org or call 401-847-3286.

Hope Funds for Cancer Research: Advancing Innovative Research in Understudied Cancers

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