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Thermo Fisher Scientific Names Recipients of RNAi Discovery Grants

More Than \$400,000 in RNAi Screening Tools Awarded to Advance Scientific Discovery

LAFAYETTE, Colo. (Oct. 29, 2009) – Thermo Fisher Scientific Inc, the world leader in serving science, today announced the recipients of more than \$400,000 in RNA-interference (RNAi) reagents to advance biomedical research and drug discovery.

The awards were made through the Thermo Scientific RNAi Discovery Grant Program. Five projects were chosen based on the potential of the research to advance science and medicine. The recipients will receive various siRNA, shRNA and microRNA reagents from the industry-leading Dharmacon and Open Biosystems RNAi technology portfolios, marketed under the Thermo Scientific brand.

D. Borden Lacy, assistant professor, and **Terence S. Dermody**, professor of pediatrics, microbiology and immunology at Vanderbilt University, will receive a whole genome small-interfering RNA (siRNA) screening package to investigate pathogen cell entry. These researchers hope to identify host proteins that form networks required for diverse microbial pathogens (viruses and bacterial exotoxins) to enter living cells. They expect these networks to open new avenues for research into host-pathogen interaction and point to new drug targets.

"We are honored to receive an RNAi Discovery Grant from Thermo Fisher Scientific," said Dermody. "It will allow us to combine our efforts in studies of how bacterial toxins and viruses gain entry into host cells and may lead to development of new classes of antimicrobial agents." Lacy added, "We would not have been able to do this work without the RNAi Discovery Grant, and we are excited to get started."

Roger Lippe, associate professor, in the Department of Pathology and Cell Biology at the University of Montreal, will receive a custom siRNA sub-library targeting human genes. The sub-library will be used to identify cellular proteins interacting with HSV-1 (herpes simplex virus type 1). The goal is to identify host proteins implicated in propagation of HSV-1 and understand their relevance and function for the virus.

Caitlin Conboy, graduate student and **David Largaespada**, professor of the Masonic Cancer Center and Center for Genome Engineering, University of Minnesota, will receive a custom short-hairpin RNA (shRNA) sub-library targeting human genes. Using results from a transposon-based genetic screen, they will use shRNA to functionally validate genes required for generation and growth of tumors in colorectal cancer. A set of human colorectal cancer and normal colonic epithelium cell lines will be

treated with shRNA and then analyzed for alterations in the Wnt/beta-catenin pathway, including signaling, proliferation, cell cycle, apoptosis, invasion and anchorage-independent growth. The team expects to identify both positive and negative regulators of tumor production, which ultimately may point to candidates for drug targeting.

Christopher J. Lord, senior staff scientist, and **Alan Ashworth**, professor and director of the Breakthrough Breast Cancer Research Centre at The Institute of Cancer Research in London, will receive a microRNA (miRNA) library to optimize new cancer drugs that show promise in treating certain types of breast and ovarian cancer. In clinical tests, these drugs, known as PARP inhibitors, have been successful in shrinking tumors in many patients without the side effects associated with standard chemotherapies. The researchers hope to identify miRNAs that affect a patient's response to PARP inhibitors and then develop clinical biomarkers to predict which patients are more likely to respond favorably or be resistant to the drugs.

"It's been clear to us for some time now that genetic screens are incredibly useful in helping us understand many of the complex issues in cancer biology and treatment," said Lord. "The RNAi screening reagents that Thermo Fisher has developed are key to this genetic approach, and we know that these days one can translate the findings from an RNAi screen very rapidly into something that is clinically relevant."

Xiaofeng Zhou, assistant professor at the University of Illinois in Chicago, will receive a miRNA library to identify microRNAs that contribute to enhanced cancer cell invasion and migration. An essential characteristic of cancer is the ability to invade surrounding tissues and metastasize to regional and distant sites. Several recent studies suggest links between metastasis, which is the most deadly aspect of cancer, and unique microRNA changes. Zhou will specifically study head and neck cancer cell lines with different metastatic potential, and his goal is determine if microRNA deregulation affects this potential.

"We are delighted that our RNAi Discovery Grant program will advance research into key areas of medical science," said Mitchell Kennedy, vice president and general manager, Thermo Scientific Genomics. "These RNAi screening technologies will help accelerate important biological discoveries that may lead to better treatments for some of the most devastating diseases facing humanity."

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