

Pfizer Enters into Research Consortium to Expand Understanding of Diabetes and Obesity Pathobiology

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Insulin Resistance Pathways Project is New Model of Collaborative Research with Teams from Multiple Universities and Companies Tackling Single Problem

[\(BUSINESS WIRE\)](#)--Pfizer has entered into a collaboration agreement with four major research universities – University of California, Santa Barbara (UCSB); Caltech; the Massachusetts Institute of Technology; and University of Massachusetts – and Entelos, a physiological modeling company, to re-examine the regulatory mechanisms of human energy metabolism. Pfizer is funding the three-year and \$14 million Insulin Resistance Pathway (IRP) Project to look at insulin signaling in adipose (fat) cells to increase understanding of diabetes and obesity, inextricably linked conditions that affect 7 percent of the U.S. population.

While diabetes has been the subject of intense study in the academic community and pharmaceutical industry for nearly 50 years, the diabetes and obesity medicines that have reached the market do not meet the needs of many patients. Nearly 60% of patients do not respond adequately to currently available drug therapies.

According to C. Preston Hensley, PhD, who will oversee the IRP for Pfizer, knowledge uncovered in the IRP Project will be applied to develop new drugs for the treatment of diabetes.

“The IRP project will be an interactive effort across Pfizer,” said Dr. Hensley. “Scientists from Pfizer’s laboratories in Groton, Connecticut, where our diabetes and obesity research is centralized, and from Pfizer Research Technology Center in Cambridge, Massachusetts, will work directly with the external research teams to progress research. We are very fortunate to be working with such a prestigious team.”

“What is most exciting and unique about this effort is that we are combining distinct approaches to transform our picture of what happens inside the cell in response to insulin,” said Robert Garofalo, PhD, senior Research Fellow from Pfizer’s Cardiovascular, Metabolic and Endocrine Diseases therapeutic area and lead Pfizer scientist on the IRP. “Insulin actually initiates a three-dimensional network of interconnected responses. Our goal is to understand this network and how it changes in diseases like diabetes. Collaborating in this way will help us to identify better possibilities for new treatments.”

The first phase of the project will include an examination of insulin signaling in adipose, or fat, cells. Researchers at Pfizer, MIT and the University of Massachusetts will perform data collection and analyses, which will then be fed to the computational groups at MIT, Caltech and the University of California at Santa Barbara, led by Frank Doyle, PhD, Professor of Chemical Engineering and Associate Director of the UCSB-MIT-Caltech Institute for Collaborative Biotechnologies.

“The IRP Project is a new paradigm in two respects,” said Dr. Doyle. “First, its methodology is a true departure from the way fundamental research in human disease has been done and then applied to the development of new

therapies in the past. Second, this consortium also represents a sea change in how industry and academia collaborate in research and product development in the pharmaceutical area."

The conditions of the collaboration allow the academic partners to publish and/or patent any discoveries made in the areas of basic biology. If the first phase of the project proves successful, a second, two-year phase will extend these studies to other insulin-sensitive tissues – liver, muscle and possibly hypothalamic or beta cells.

"We are tremendously excited about this partnership as it represents just one of several leading relationships Pfizer has with world-class academic, public-sector and private-sector institutions in areas of emerging science that will help to shape our future in biotherapeutics and bioinnovation," said Corey Goodman, PhD, president of Pfizer's new Biotherapeutics and Bioinnovation division. "We are hopeful that the research gathered from this consortium will provide new targets for this major unmet medical need and, ultimately, provide patients with new, better ways to treat these conditions."

The Pfizer pipeline of new medicines contains a variety of approaches to treat diabetes and obesity. Pfizer has seven compounds in various stages of development for the treatment of these conditions, including 3 compounds in phase I, 3 compounds in phase II and 1 compound in phase III.

Pfizer is the world's largest research-based biomedical and pharmaceutical company. Every day, approximately 87,000 colleagues in more than 150 countries work to discover, develop, manufacture and deliver quality, safe and effective prescription medicines to patients. In 2007, Pfizer invested more than \$8 billion in research and development.

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