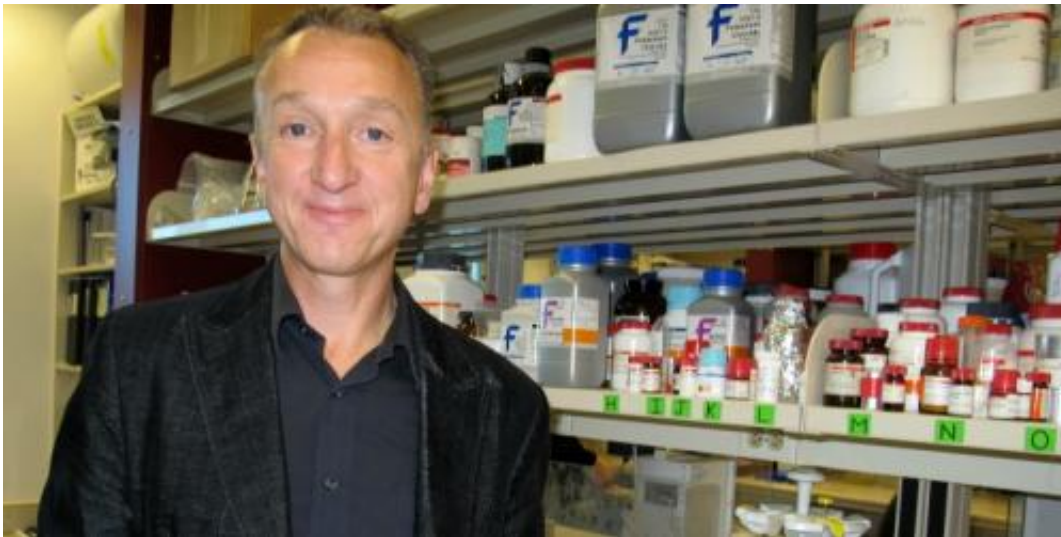


# Simple blood test could ID people at risk of diabetes

December 13 2013, by Raquel Maurier

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Peter Light lent his expertise to an international research team that discovered a simple blood test could pinpoint patients at risk of developing diabetes.

(Medical Xpress)—Medical researchers with the University of Alberta played an important role in a Massachusetts General Hospital-led discovery that a blood test could pinpoint those at risk of developing diabetes—more than 10 years before the onset of the disease. The team discovered a biomarker in the blood that accumulated at higher levels in those at risk of developing diabetes.

"This could become part of [routine screening](#), to look for this biomarker in blood tests," said Peter Light, director of the Alberta Diabetes

Institute and a researcher with the Faculty of Medicine & Dentistry at the U of A. "Pre-diabetics had high levels of this biomarker—50 per cent more—than non-diabetics. This marker was present in [higher levels](#) in the blood as early as 12 years before the onset of [diabetes](#). It's potentially a new way to determine who is at high risk very early."

Light's role in the discovery was to work with human islets. Lead researcher Robert Gerszten asked Light to lend his expertise in islet biology to the project when they met last year in Edmonton, and Light was eager to be part of the international collaboration. Gerszten works in the cardiology division of Massachusetts General Hospital, the original and largest teaching hospital of Harvard Medical School. Other researchers on the team came from across the United States and Europe. The team's findings were recently published in the peer-reviewed *Journal of Clinical Investigation*.

The team found the biomarker by looking at blood samples from more than 1,900 Americans, who were part of a study that focused on cardiovascular disease. Patients who later went on to develop Type 2 diabetes had elevated levels of this marker in their blood even though these patients had normal glucose tolerance. The team found the same results when they examined blood work from more than 4,200 people who took part in a Swedish study.

Light's group found that the biomarker increased insulin release from human islets even at low glucose levels, suggesting that over time the islets may wear out, leading to Type 2 diabetes.

"We analyzed hundreds of chemicals in the blood to see if we could detect changes in the chemical makeup before a person developed diabetes," said Gerszten, director of clinical and translational research at the Massachusetts General Hospital Institute for Heart, Vascular and Stroke Care. "We are very hopeful that within four to five years, this

very simple [blood test](#) will be a tool that physicians will use to help treat their patients. Diabetes is a major contributor to heart disease, and we are working to develop this new technique to determine who is most at risk and, ultimately, how we can help them live healthier lives."

Gerszten's group then worked with lab animals and discovered that levels of this [biomarker](#) increased in mice that were fed high-fat diets.

Provided by University of Alberta

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