Duke File (IDF) Number

IDF #:T-003111

Meet the Inventors

Shah, Svati
Ginsburg, Geoffrey
Hauser, Elizabeth
Kraus, William
Newby, Laura Kristin
Newgard, Christopher "Christopher"

Contact For More Info

Thomas, Dennis
919-681-7580
dennis.thomas@duke.edu

Department

Department of Medicine (DOM)(Dept. & CRU)

Publication(s)

External Link(s)

- From the lab of Dr. Svati Shah
- From the lab of Dr. Geoffrey Ginsburg
- From the lab of Dr. Christopher Newgard
- From the lab of Dr. William Kraus

A simple metabolomic profile to predict risk of subsequent cardiovascular events

Value Proposition

Coronary artery disease (CAD) is the leading cause of death in industrialized countries, and in concert with the epidemic of obesity and diabetes, is rapidly becoming the leading cause of death in developing countries. The genetic predilection of CAD is well-established; family history has been shown to be an independent risk factor for CAD, especially in early onset forms. Despite this, the genetic architecture of CAD remains largely unknown. Many accepted risk factors for CAD are metabolic. However, there remains an incomplete mechanistic understanding of CAD risk, and equally important, a need to refine our ability to identify individuals at highest risk of cardiovascular events. Given the complex nature of CAD, evaluation with more comprehensive tools may improve risk stratification and enhance our understanding of the disease process.

Technology

Duke researchers have developed a method to assess the risk of cardiovascular disease in a patient intended to help identify patients who may benefit from more aggressive pharmacologic preventive therapy being initiated. One could imagine using this method with patients as an outpatient or when they are referred to the cardiac catherization lab. This collaborative group has identified a metabolite profile in a cohort of 314 individuals with CAD. This method was then validated in a second control using 66 individuals suffering from myocardial infarction, death, or acute coronary syndrome as well as 66 age- race- sex- CAD severity matched controls without events in >2 years follow-up.

Advantages

- Assesses cardiovascular risk with a simple metabolite profile
- Could have significant implications for risk prediction, such as early intervention with high risk patients
- A very accurate, targeted, quantitative approach