BOSTON BUSINESS JOURNAL
bioflash
POWERED BY: MASS HIGH TECH

November 26, 2014
(Unique Visitors per Month: 17,488)

In an era of gene tests, Quanterix has an alternate take on diagnostics

By Don Seiffert

There's a battle in the diagnostics industry between nature and nurture, and recently nature — gene sequencing and other tests for inherited, genetic markers — has been on the upswing.

But a 70-employee Lexington firm is going in the opposite direction, betting its future on a better way of measuring proteins levels — which are affected by lifestyle and a host of other factors — in order to diagnose diseases ranging from heart trouble to concussions to cancer.

Launched last year, Quanterix's Simoa HD-1 analyzer is in fact 1,000 times more sensitive than any of the 171 other FDA-approved protein tests on the market today. Courtesy Quanterix

"Proteins, we think, are more important than DNA, because the environment affects you more than what you were born with," said Kevin Hrusovsky, executive chairman of Quanterix.

The seven-year-old company was formed on the basis of research from Tufts University by David Walt, who also happens to be the scientific founder of one of the world's leading gene sequencing firms, San Diego-based Illumina (Nasdaq: ILMN). Hrusovsky, who joined the company about five months ago, said the technology allows for the detection of levels of proteins so tiny that they previously haven't been able to be used as biomarkers (substances able to be measured to confirm the presence of disease).

The company's Simoa HD-1 analyzer is in fact 1,000 times more sensitive than any of the 171 other FDA-approved protein tests on the market today, according to Hrusovsky. Able to detect proteins which are just trillionths of a gram, it can be used to measure levels of many more of the 1 million or so proteins in the body which could provide diagnostic evidence to doctors. "It will allow people to see issues before there are issues," said Hrusovsky.

In addition to the analyzers themselves, Quanterix sells kits that allow researchers to test for about 25 different specific proteins, as well as a so-called "homebrew" kit which allows them to adapt it to any protein. As an example, Hrusovsky said the company makes a kit to test for troponin, a substance that's always present in the body, but is elevated during a heart attack. "In normal humans, troponin is in the blood, but in levels so low that people hadn't been able to measure it," he said.

Additionally, levels of tiny amounts of tau proteins that leak out of the brain into the bloodstream during a concussion could be used to diagnose concussions or even Alzheimer's more precisely than the behavioral methods now used. The company was selected as a winner in the GE and NFL Head Health Challenge for its potential to improve diagnosis of concussions, earning the company a $500,000 grant, said Hrusovsky.

The company, which is backed by Bain Capital Ventures, Arch Venture Partners and Flagship Ventures, launched the instrument last year, and Hrusovsky said he's expecting to take in between $4 million and $8 million in revenue this year. Next year, he plans to double that. Meanwhile the company has started hiring salespeople in addition to the research-oriented positions it's had for the past several years.