Race for cancer blood test has big name investors, unlikely scientific collaborations

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It's a medical puzzle that has snagged the attention — and the money — of Bill Gates, Jeff Bezos, and venture capitalists across the nation: Is it possible to diagnose cancer from a simple blood draw?

Surgical biopsies are the norm, but they're invasive, expensive, and carry the risk of infection. So investors have poured hundreds of millions into the goal of developing "liquid biopsies."

There has been some progress: Blood analysis is now used to identify the best treatments for certain cancers — and to update treatments as the cancer mutates. But so far, no one has scored the ultimate success: diagnosing incipient cancer from a vial of blood drawn from a patient who looks and feels perfectly healthy.

Mehmet Toner and Dr. Daniel Haber — a Turkish bioengineer and a Jewish geneticist — joined forces a decade ago, in a partnership forged over tuna sandwiches. While other scientists scan blood for scraps of tumor DNA, Toner and Haber filter out all the healthy components of the blood — then scoop up any whole tumor cells left behind.

The process is costly and time-consuming. And their peers mock it as hopelessly old school.

But Toner and Haber are undaunted. They're convinced whole cells will give doctors valuable information about cancer. A fragment from a dying tumor cell, Haber said, "doesn't tell me anything about the biology of the living tumor."

Read full, original post: Inside the race to diagnose cancer from a simple blood draw