

Press Release:

Is a hand-held cancer meter feasible?

Aurora, CO – Researchers at aiGENE, Inc. and Colorado State University and have developed a novel method to rapidly detect changes in the amount of cancer DNA. On November 18, during the American Association of Cancer Research meeting “PRECISION PREVENTION, EARLY DETECTION, AND INTERCEPTION OF CANCER” aiGENE presented **“A simplified, potentially point-of-care (POC), electrode method detects changes in the amount of cfDNA/ctDNA and evaluates the response of advanced cancer patients to therapy.”**

Currently, therapy for advanced cancer fails more often than it succeeds. Over half the "personalized" treatments fail to result in meaningful responses. Expensive, ineffective, and toxic therapy may be given for months before imaging can determine it is not helping the patient. The lack of a rapid, cost-effective, easy to use, quick turnaround test leads to increased costs, increased side effects, decreased quality of life, and potentially fatal cancer growth. A rapid, inexpensive, preferably in-office method to quickly detect ineffective therapy is critical.

The novel technology uses inexpensive, disposable, gold electrodes to differentiate normal DNA in the blood from cancer DNA. Previous work relied on problematic sample preparation and solid gold electrodes that required complex and artful cleaning between measurements. This is the first presentation of an electrode method for measuring cancer in the blood that does not require either of these.

While only the target patient group, late-stage cancer patients needing accurate therapy assessment, were tested, the electrodes correctly identified all patients with cancer. Anecdotes of patients before and after a therapy were presented. The electrode detected the efficacious treatment, before imaging.

“Early identification of hyper-progressive disease or any inactive therapy, and switching to an effective therapy can be lifesaving. The novel electrode method provides near real-time adjustment of therapy, to save lives while reducing costs ,” said Dr. Floyd Taub, co-author of the study. In addition to founding aiGENE, he founded, Digene, the first company to commercialize a DNA based cancer screening method.

The new technology is expected to revolutionize the monitoring of advanced cancer patients, enabling rapid and accurate detection of the effectiveness of therapy.

A clean cut off with all the subjects with cancer below the threshold and all those without cancer above it was presented. This yielded very convincing statistics ($p=000002$ and $AUC =1$). Milestones presented included:

1. Better results than the in-licensed technology
2. Ability to use DNA isolated by a variety of methods
3. Use of disposable electrodes appropriate for the clinical lab
4. Initial documentation of detecting therapy responses

The researchers noted the initial exciting results need confirmation in larger studies and encouraged collaborations to achieve this.

About aiGENE, Inc.

aiGENE, Inc. is a privately funded biotech company located in BioScience 1, on the Anschutz Medical Campus of the University of Colorado. aiGENE, Inc. is a rapidly growing startup focused on using breakthrough science about DNA modifications (the “epigene”) to provide actionable information and save lives. Their products and services are aimed at enabling healthcare providers to make faster and more accurate diagnoses and treatment decisions.