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Singapore develops affordable and highly sensitive blood test for cancer

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The S$50 blood test has high sensitivity, comparable to the gold standard CT scan



Scientists from the National University of Singapore (NUS) have discovered a novel low-cost method of testing for cancers. Called the Heatrich-BS assay, this new test sequences clinical samples that have been heated in order to isolate cancer-specific signatures found in a patient's blood.

The new method provides a promising non-invasive alternative to tissue biopsies. It costs around S$50 from start to finish, compared to other sequencing methods that can cost up to S$1,000 to conduct.

Led by Assistant Professor Cheow Lih Feng, the team comprising researchers from the NUS Department of Biomedical Engineering under the College of Design and Engineering as well as the NUS Institute for Health Innovation & Technology, is now exploring industry partnerships to bring their technology to market.

The Heatrich-BS assay has been trialed at the National Cancer Centre in Singapore, monitoring patients with colorectal cancer. By comparing the results of their blood analysis with CT scans that imaged the size of patients' tumours, the team found that there was a high correlation between how much cancer-specific DNA was detected in a patient's blood sample and the size of their tumours over time.

The assay may also help accelerate future academic research, helping scientists study different subtypes of cancer for a low cost and therefore improving the development of future cancer diagnoses and therapies.

Asst Prof Cheow and his team are now exploring ways to commercialise their assay by partnering with pharmaceutical and biotechnology companies that can help bring the Heatrich-BS assay to market.