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NUS discovers personalised tool to detect cancer

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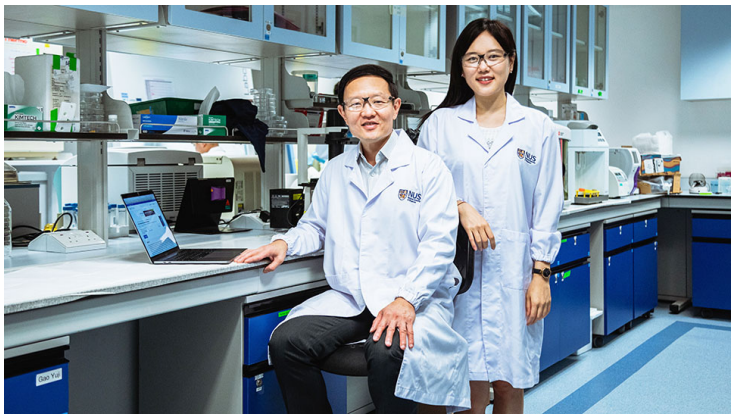

A team of researchers from the National University of Singapore (NUS) has discovered a new personalised tool to detect cancer, predict patient survivability and how well a cancer patient would respond to immunotherapy.

This tool is a specially-designed cancer 'scorecard' to be used with the standard blood test for cancer (also known as liquid biopsy).

This 'scorecard', which the team termed as the Tumour Matrisome Index (TMI), is a panel of 29 selected genes produced in the extracellular matrix (ECM) of the human body.

ECM is the space around cells and provides structural and biochemical support to surrounding cells, behaving like a scaffolding.

In a series of studies, the NUS team found that these 29 genes had appeared repeatedly as a consistent factor in patients diagnosed with non-small-cell lung cancer (NSCLC) which accounts for approximately 85 per cent of all lung cancers.

To develop and validate the TMI “scorecard”, the team used big data and predictive analysis of over 30,000 patient-derived biopsies.

Using public datasets of healthy individuals and cancer patients, the team noticed that cancer patients had a higher set of TMI scores. Testing a person’s TMI signature can determine if someone has cancer or not.

Moving forward, the team plans to collaborate with their clinical collaborators to conduct further clinical tests to validate the use of TMI on various cancer types. This will determine how accurate and specific TMI will be in the diagnosis and prognosis of patients via liquid biopsy or blood test. This has great potential in becoming a standard test not only in detecting cancer, but also predicting patient survivability.