

Vietnam's Gene Solutions develops multimodal liquid biopsy assay for cancer detection

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The discovery provides promising picture for multi-cancer early detection in Southeast Asia

Founded in Vietnam, Gene Solutions has developed a multimodal liquid biopsy based assay named Screening for the Presence of Tumor by Methylation And Size (SPOT-MAS) to detect the five most common cancer types (liver, breast, colorectal, gastric, and lung cancer).

Circulating tumor DNA, or cell-free tumor DNA (ctDNA) assay is based on detecting the appearance of ctDNA in blood. This method is sometimes called Liquid Biopsy as it only requires blood sample collection, rather than tumor tissues.

There are several assays of liquid-biopsy-based early cancer screening worldwide. However, each uses different signatures on ctDNA. Overall, these tests can simultaneously detect multiple cancer types (from 8 to 50), showing specificity above 95% while sensitivity varies from 44% to 98% depending on cancer types and disease stages. However, none of these studies was designed for Southeast Asia landscape.

The performance of SPOT-MAS has demonstrated that it enables the startup to be optimistic that within the next 5 years, SPOT-MAS will be available in clinical practices and implemented in screening programmes across multiple nations – alongside other routine screening tests.

As Gene Solutions is expanding to Thailand, Indonesia and the Philippines, it is expected that the firm will open more ctDNA clinical validation in each country to further demonstrate the performance of SPOT-MAS and open new personalised screening method in the fight against cancer.