New hope to improve early detection and save lives

Asia's First Clinically Validated Multi-Cancer Early Detection Blood Test With Strong Performance[1]

9,024	10	19+
Participants	Cancer Types Including Multi-omics dataset from 75 subtypes (*)	Peer-Reviewed Publications: BMC Medicine, eLife,...

(*) Data source: Gene Solutions Multi-omics dataset on cancer subtypes (Accessed Sep 2025)

SPOT-MAS 10 has been granted FDA Breakthrough Device Designation**

(**) Breakthrough Device Designation is not FDA approval, clearance, or marketing authorization. SPOT-MAS 10 remains subject to future FDA review.

What is SPOT-MAS™ test

SPOT-MAS is a non-invasive, multi-cancer early detection (MCED) test that detects tumor DNA (ctDNA) circulating in the blood. This test incorporates next-generation sequencing (NGS) and AI technologies to analyze the multi-omics features of ctDNA, enabling early detection for the most common and aggressive cancers from a single tube of blood[1, 2].

(1) Nguyen, L.H.D. et al. Prospective validation study: a non-invasive circulating tumor DNA-based assay for simultaneous early detection of multiple cancers in asymptomatic adults. BMC Med 23, 90 (2025). doi:10.1186/s12916-025-03929-y.
(2) These 10 cancer types accounted for 56.2% of total new incidences and 59.9% of total mortality (WHO GLOBOCAN South-East Asia Report, 2022).

01 Cell-free DNA (cfDNA) multi-omics profiling

Single blood draw

→ Cell-free DNA Extraction

→ Sequencing Library Preparation

→ Multi-omics Next-Generation Sequencing

→ Genetics | Epigenetics | Fragmentomics

02 AI-Powered Analysis

DNASphere.AI

- 20,000+ Multi-cancer, multi-omics Profiles
- Cell-free Multi-omics ATLAS
- Multi-modal AI Algorithms (ML, DL)

→
- ctDNA Signal Detection
- Tumor Origin Prediction

This material is intended for healthcare professionals only.

SPOT-MAS portfolio	Scope	Technology
SPOT-MAS 10	Multi-omics features of 10 cancer types: Breast, Lung, Liver-Biliary tract, Colorectum, Stomach, Ovary, Pancreas, Esophagus, Endometrium, Head & Neck	• Multi AI machine learning and deep learning models • Cell-free Multi-omics ATLAS
SPOT-MAS Lung	Multiple lung-specific DNA features	
SPOT-MAS CRC Pro	Multiple colorectum-specific DNA features	
SPOT-MAS CRC	SEPTIN9 gene methylation status	• Multiplex Real-time PCR

SPOT-MAS Performance[1, 4]

Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value	Tumor Origin Prediction Value
78.1%	99.8%	58.1%	99.9%	84%
70.8%	99.7%	39.5%	99.9%	52.9%

- Including pre-cancerous findings
- Only cancerous cases

(1) Nguyen, L.H.D. et al. Prospective validation study: a non-invasive circulating tumor DNA-based assay for simultaneous early detection of multiple cancers in asymptomatic adults. BMC Med 23, 90 (2025). doi:10.1186/s12916-025-03929-y.
(4) Carbonell, Chantelle, et al. Cancer Control 31 (2024): 10732748241307360.

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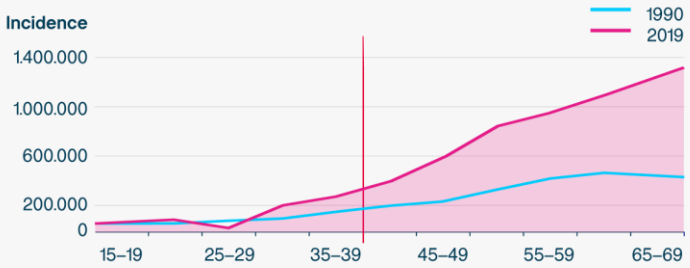
GENE SOLUTIONS

SPOT-MAS

Who should consider starting ctDNA screening

Adults > 40 years old.

The incidence of cancer has increased since 1990.
Older persons are at higher risk for cancer[5].



Cancer incidence by age in Asia between 1990 and 2019 (5)
(5) Sharma et al, 2024. The Lancet Regional Health - Southeast Asia 21, 100333.

Adults aged <40 years old with high risks for cancer.

- Heavy smoking: People who have a 20 pack–year history of smoking[6]
- Heavy drinking: People who drink 15 cans of beer a week (for men) or 08 cans of beer a week (for women)[7]
- Hereditary risks: Those who have had tested positive for inherited cancer genes such as BRCA1, BRCA2, TP53[8]
- Liver diseases: People who have Hepatitis B or C[9]
- Familial history: People whose family members had been diagnosed with cancer[10]

(6) Chen et al, 2021 American Journal of Otolaryngology 42, 102915. (7) Connor et al, 2017. Addiction 112, 222–228. (8) Garber et al, 2005. JCO 23, 276–292. (9) Petruzziello et al, 2018. TOVJ 12, 26–32. (10) Brewer et al, 2017. Breast Cancer Res Treat 165, 193–200.

Understanding the SPOT-MAS reports

The three possible test results are:

NEGATIVE

- A negative result (no ctDNA signal detected yet) does not completely rule out the presence of a tumor because the tumor is out of scope (not 1 of the 10 cancers), is located in a difficult location for ctDNA release[11] or rare asymptomatic metastatic cancer which cannot be detected by this test[12].
- The negative predictive value of the test is 99.9%[1], which means that for for every 1000 ASYMPTOMATIC cases with negative results, about 999 cases actually do not have cancer.
- This test is recommended for use as a complementary screening test. Patient should continue with existing screening regimens.

INTERMEDIATE

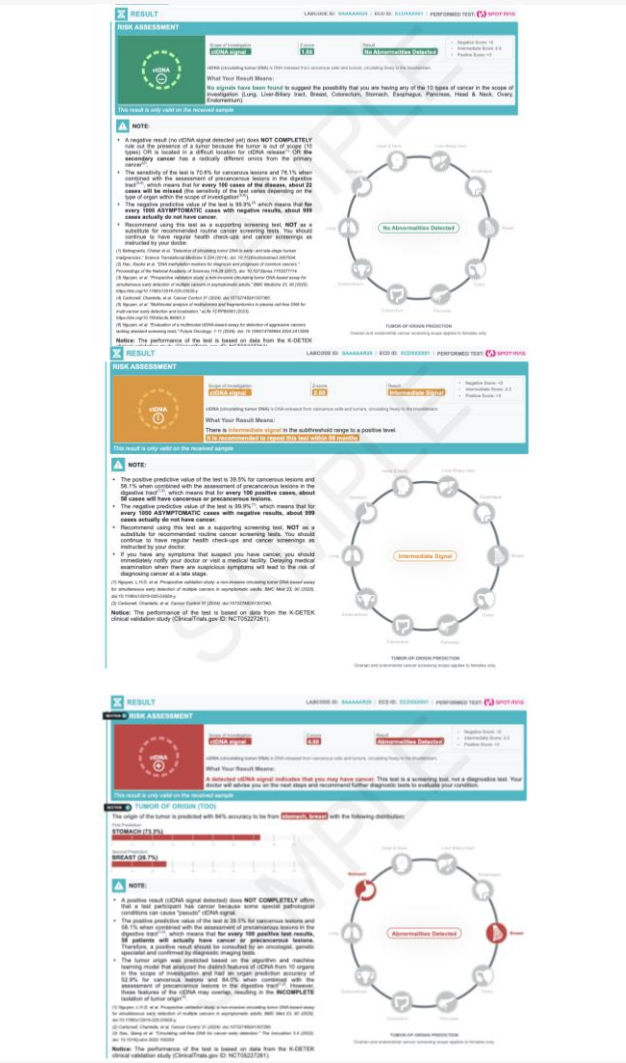
- As a ctDNA signal was detected in the subthreshold range, there is insufficient evidence for a definitive conclusion.
- Advise patient:
  - To repeat this test within 6 months (free-of-charge).
  - To periodically monitor their health and go to a doctor when signs of unwellness or early warning signs of cancer appear.
  - That delaying medical examination when there are suspicious symptoms will lead to the risk of diagnosing cancer at a late stage.

POSITIVE

- A ctDNA Signal (DNA from tumor) was detected in the blood.
- This result also provides 1 or 2 predictions about where the cancer signal originates in the body with accuracy of 52.9% for cancerous lesions and 84.0% when combined with the assessment of precancerous lesions in the digestive tract[1,4].
- A positive result (ctDNA signal detected) does not completely affirm that a test participant has cancer. The positive predictive value of the test is 39.5% for cancerous lesions and 58.1% when combined with the assessment of precancerous lesions in the digestive tract[1,4], which means that for every 100 positive test results, 58 patients will actually have cancer or precancerous lesions.
- Patient should be referred to an oncologist and undergo diagnostic imaging tests. Patient support program for diagnostic imaging is available in Singapore through Gene Solutions.

Specimen:
10 mL blood
Streck tube
(in collection kit)

Turn-around time
12 working days



(11) Bettegowda, Chetan et al. "Detection of circulating tumor DNA in early- and late-stage human malignancies." Science translational medicine 6.224 (2014). (12) Hao, Xiaoke et al. "DNA methylation markers for diagnosis and prognosis of common cancers." Proceedings of the National Academy of Sciences 114.28 (2017).

This test was developed by Gene Solutions and is performed at its licensed clinical laboratory in Singapore. Results will be delivered to the ordering physician.