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Lucence launches first molecular test to distinguish breast tumours

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This test will help doctors decide how to treat an indeterminate fibroepithelial breast lump that has been detected.



Singapore – Lucence Diagnostics announced the launch of the world's first molecular test to distinguish breast fibroadenoma, the commonest benign breast tumor, from phyllodes tumor, a less common tumor that may be malignant. Both fibroadenomas and phyllodes tumors are classified as fibroepithelial tumors. This test will help doctors decide how to treat an indeterminate fibroepithelial breast lump that has been detected. The FibroPhyllo Tissue test is based on a technology invented by the Singapore General Hospital (SGH) and the Agency for Science, Technology and Research (A*STAR).

Fibroadenoma is the most common benign breast tumor in the world. It can be challenging to differentiate the two types of breast tumors because they share overlapping clinical and histological features. Current immunohistochemical techniques are also subjective and open to interpretation. As the prudent approach for indeterminate cases discovered on core biopsy is to treat such cases as potentially malignant, this can result in the unnecessary removal of healthy breast tissue for women.

Lucence's new FibroPhyllo Tissue test addresses this problem by being able to distinguish whether an indeterminate fibroepithelial breast lump is a fibroadenoma or a phyllodes tumor on core biopsy material. The technology that underpins the test was developed over five years by a research team led by Professor Tan Puay Hoon, Chairman, Division of Pathology and Senior Consultant at SGH and Dr Tan Min-Han, then Principal Investigator at A*STAR and currently Founder and CEO of Lucence Diagnostics.

The team identified five genes with different biological functions using machine learning and found that the expression levels of these five genes could accurately distinguish between the two types of breast tumors. The FibroPhyllo Tissue test was validated in a cohort study of 230 breast fibroepithelial tumor tissue samples. The test was able to differentiate fibroadenomas from phyllodes tumors with an accuracy of 93%. Their findings were published in the leading journal Breast Cancer Research in 2016.

Lucence Diagnostics, an A*STAR spin-off, subsequently obtained the technology from A*STAR through its commercialisation arm ETPL for development as a clinical assay globally.

“The availability of the FibroPhyllo Tissue test to guide clinicians in surgical decisionmaking today, is an encouraging result of concerted efforts between public and private sector research,” said Mr Philip Lim, CEO, ETPL, A*STAR. “We are proud to have worked with Lucence from its early days to bring the idea for this test from the lab to the market, for the benefit of patients worldwide,” he added.

The FibroPhyllo Tissue test was launched today to mark Breast Cancer Awareness Month in October. Breast cancer is the most common cancer and the leading cause of death among women worldwide. According to the Singapore Cancer Registry, breast cancer accounts for about 30 per cent of all cancers among women in Singapore.

The FibroPhyllo Tissue test is now available in Singapore, Hong Kong and ASEAN.