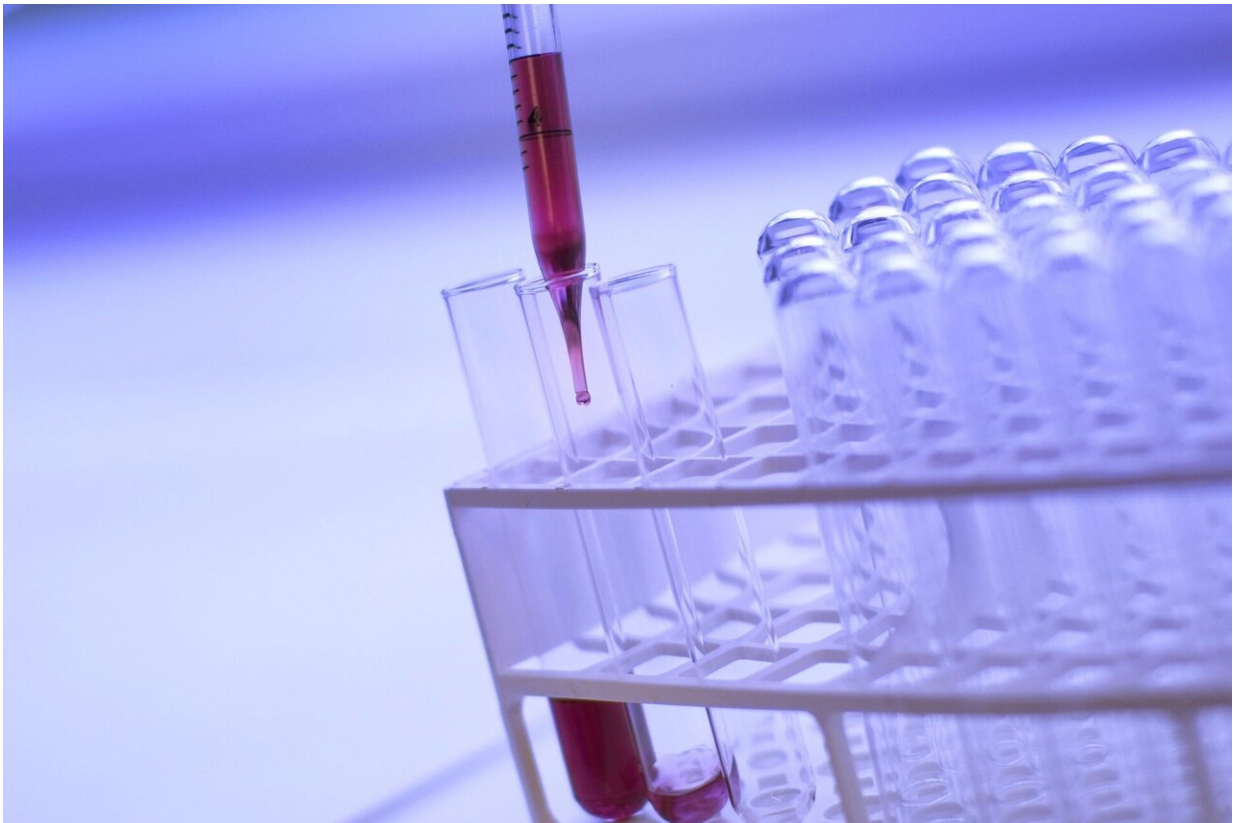


# Establishment of breast phyllodes tumor cell lines to facilitate future studies

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Breast phyllodes tumors (PTs) are biphasic, with epithelial and stromal components. Although the PT incidence is low (approximately 1% of all breast tumors), its clinical outcomes are unpredictable, and malignant

PTs often progress rapidly. No effective treatment is currently available, thus resulting a high mortality rate from malignant PTs.

PT cell lines must be established to facilitate the study of PTs. The authors of an article published in *BIO Integration* established six PT cell lines through continuous passage or cell immortalization. They characterized these PT cell lines through in vitro functional assays, malignant PT marker detection and short tandem repeat identification. Benign PT cell lines (SYSH-BPT-01 and SYSH-BPT-02) were transfected with [human papillomavirus](#) 16 E6/E7, and two malignant PT cell lines (SYSH-MPT-01 and SYSH-MPT-02) were transfected with Simian virus 40 large T antigen. Two malignant PT cell lines (SYSH-MPT-03 and SYSH-MPT-04) were established through continuous passage.

All malignant PT cell lines showed greater proliferation, colony formation, migration, invasion and collagen contraction ability than the benign PT cell lines. Moreover, the expression levels of malignant PT markers ( $\alpha$ -smooth muscle actin and fibroblast activation protein) and short tandem repeat identification indicated that each PT cell line was identical to the parental primary cells.

PT cell lines were established that preserved the features of primary cells. These [cell lines](#) may serve as ideal experimental models for studying the function of breast PTs, thus opening new possibilities for PT drug screening and therapeutic target validation.

**More information:** Shishi He et al, Establishment of Breast Phyllodes Tumor Cell Lines Preserving the Features of Phyllodes Tumors, *BIO Integration* (2022). [DOI: 10.15212/bioi-2022-0025](https://doi.org/10.15212/bioi-2022-0025)

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