

Researchers grow mammary gland in petri dish to study breast cancer

A research group has developed an assay whereby cultured human breast epithelial cells rebuild the three-dimensional tissue architecture of the mammary gland.

A transparent gel is used in which cells divide and spread, similar to the developing mammary gland during puberty. Specifically, cells divide and generate hollow ducts that form a network of branches and terminate in grape-like structures. Throughout the reproductive lifespan of a woman, the mammary gland is constantly remodeled and renewed in order to guarantee milk production even after multiple pregnancies.

Although their exact identity remains elusive, this high cellular turnover requires the presence of cells with regenerative capacity, i.e. stem cells. Breast cancer cells can adopt properties of stem cells to acquire aggressive traits.

A reason the mini-mammary glands represent a particularly valuable tool is, because the cells that build these structure are directly isolated from patient tissue. In this case, healthy tissue from women undergoing aesthetic breast reduction is used. Co-author Haruko Miura explains: “After the operation, this tissue is normally discarded. For us, it is an experimental treasure chest that enables us to tease out individual difference in the behavior of stem and other cells in the human mammary gland.”

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Mini-breast Grown In Petri Dishes](#)