"Breast on-a-chip" - New model expands options for testing cancer treatments and diagnosis techniques.

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The development of a model of the breast ductal system on a microchip represents a major step forward in breast cancer research. The “ breast-on-a-chip” model allows researchers to more accurately see the interaction that breast cancer therapies have with their environment, and how these affect administration of treatment. Scientists are also hoping to use this model as a launching point for testing new diagnostic procedures. The lack of a good model system for cancer that forms in the mammary ducts has proven a formidable problem for both cancer treatment and diagnosis. Because the fluid channels in the breast vary in size, it has proven ineffective to simply inject solutions into the tissue. Researchers at Purdue University, however, are testing magnetized particles, which can be guided into and out of the breast by an external magnetic field. They are using this revolutionary “breast on-a-chip” model to test the procedure.

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