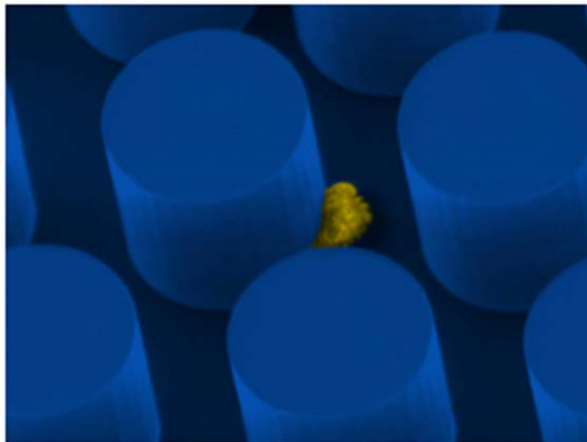


Point-of-Contact Microchip for Early Detection of Cancer Cells

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Malignant cancers shed cells that enter the circulation, travel to other areas of the body, and often grow into secondary tumors called metastases. Metastases are responsible for the great majority of cancer deaths. The existence of circulating tumor cells (CTCs) has long been recognized, but their clinical utility as a sentinel for malignant cancer has been limited because of the difficulty in detecting and measuring their extremely low concentrations.

A team of researchers from Massachusetts General Hospital Cancer Center is developing a technology to facilitate quantitative detection of CTCs. Because most tumor types are epithelial in origin, the researchers have engineered a microchip with a large surface area of an epithelial cell adhesion molecule that binds CTCs from whole blood, making point-of-care use feasible and detection of CTCs more reliable than previous approaches. This technology has the potential to eliminate or greatly reduce cancer deaths due to metastases.



Scanning electron microscope image of a single lung cancer cell (H1650) captured on the slide of a micropost.

References/Publications

Visit <http://www.nibib.nih.gov/NewsEvents/Releases#June> and <http://www.nibib.nih.gov/Research/QuantumGrants> for more information.

