NANOFAB BIOTECHNOLOGY

CNST Center for Nanoscale Science & Technology

Microfluidic Purification of Tumor Cells from Blood

PROJECT LEADER: Ralph Weissleder (Massachusetts General Hospital)

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GOAL

To develop a device that rapidly and selectively separates and concentrates cancer cells from blood cells based on the larger size of the cancer cells.

KEY ACCOMPLISHMENTS

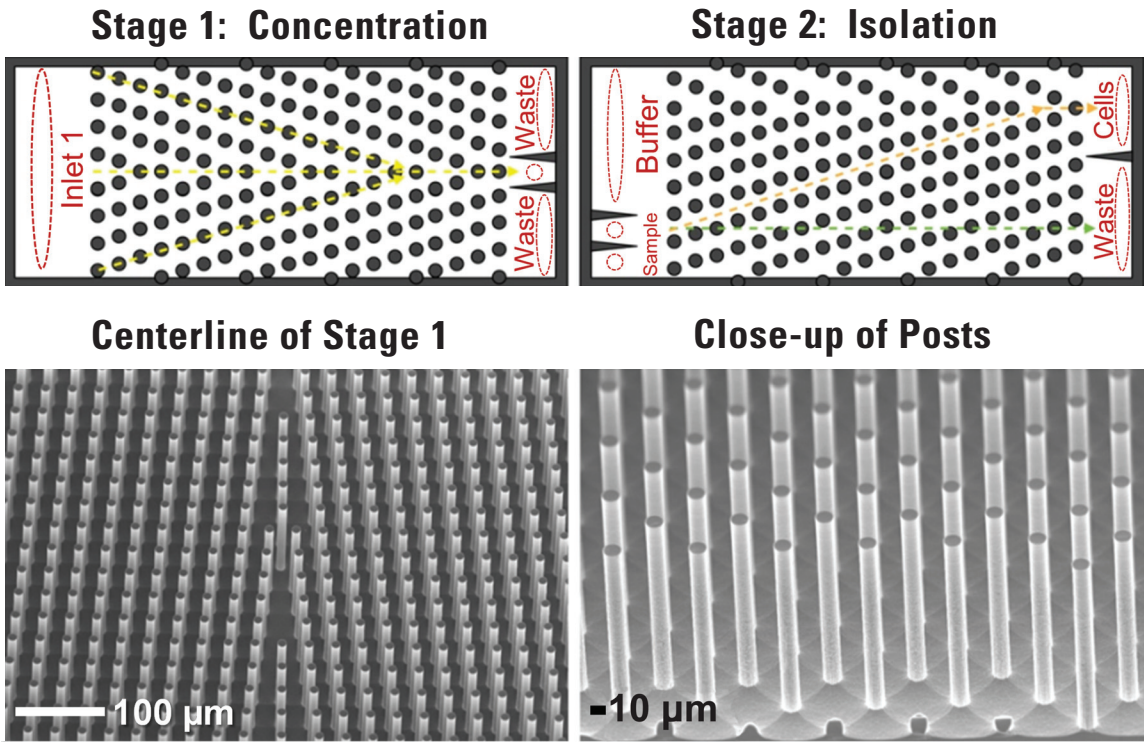
Designed and fabricated a microfluidic device for the concentration and separation of tumor cells from blood.

Created micropost structures with extremely high aspect ratio vertical sidewalls: 4 x greater than previously demonstrated.

KEY NANOFAB PROCESS

Deep reactive ion etching of high aspect ratio structures in silicon.

Schematics of the chip design and scanning electron micrographs of the etched micropost structures.



REFERENCE

http://csb.mgh.harvard.edu/weissleder