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Japan develops new tumour-on-a-chip device

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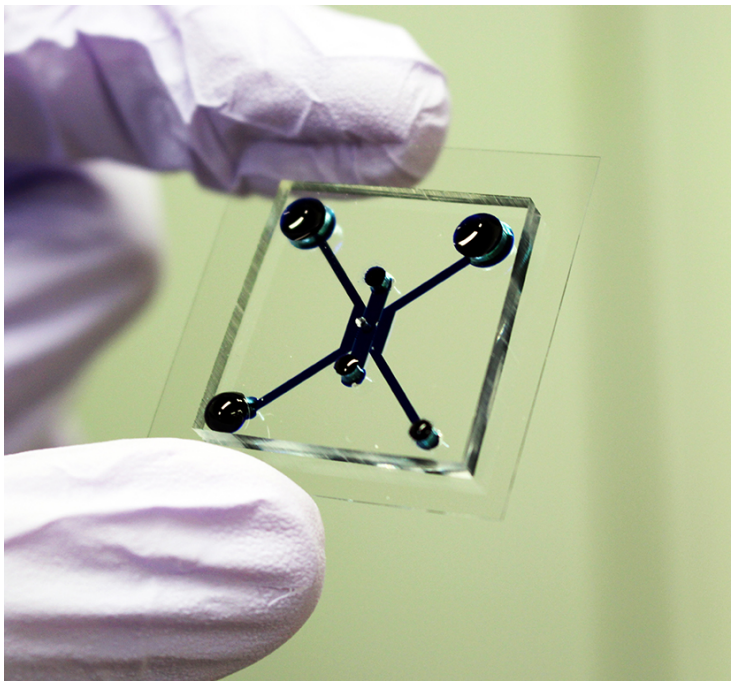
Researchers develop a tumor model on a device the size of a coin



Kyoto University researchers have developed a new 'tumor-on-a-chip' device that can better mimic the environment inside the body, paving the way for improved screening of potential cancer fighting drugs.

The device, reported in the journal *Biomaterials*, is the size of a coin with a 1 mm well at the center. This well is flanked by a series of 100 µm 'microposts'. The idea is that a three-dimensional culture of tumor cells is placed in the middle well, and then cells that construct blood vessels are places along the microposts. Over a few days the vessels grow and attaches to the culture.

This 'perfusable vasculature' allows the researchers to administer nutrients and drugs into the system to mimic the environment in the body. "This allows us to have a clearer picture of the effectiveness of cancer treating compounds", explains first author Yuji Nashimoto formally of the Graduate School of Engineering, and now at Tohoku University.

The device allows researchers to mimic the environment inside the body to screen for better cancer screening drugs.