Optimization of a lab-on-a-chip device and method for quantification of extravasation

**Background**
Metastasis comprises of intravasation, extravasation and new tumor formation at a secondary site in the body. Understanding the mechanism of metastasis and developing new platforms to study metastasis plays a critical role in both the diagnosis and the treatment of cancer.

**Questions**
Extravasation on a chip has been modeled before. Yet, the approach requires further optimization.

**Methods**

**Results**
Presence of dextran in the endothelial cell suspension prevented formation of cluster.

Real time imaging and analysis showed that 70 kDa fluorescent dextran did not diffuse from the flow channel into the matrix.

**References and acknowledgements**


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We have optimized surface coating, cell density and medium composition for successful mimicking of a blood vessel in a LOC device. The optimized method enables the determination of extravasation of cancer cells.