

Technology Offer

Iterative Chip-Based Cytometry (iCBC)

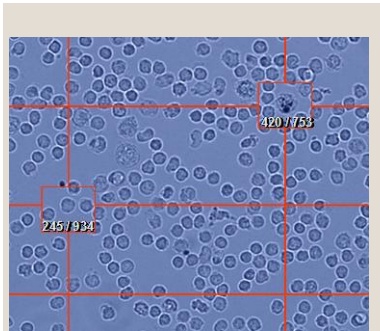
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Challenge

Understanding the phenotypes and functions of cells holds high promises for advancing medical research and the discovery of new diagnostic biomarkers. However, there is no simple set of markers that allows a fast, valid and reliable analysis of cells, because of the redundant use of expressed markers by different cell types that further depend on host-species, organ-origin or activation state of the cells. Analysis of this high complexity is currently limited by available technologies for cellular analysis like flow-cytometry or slide-based cytometry thus slowing down knowledge generation processes.



Automated single-cell recognition
Source: Provided by inventor

Technology

Iterative chip-based cytometry overcomes these limitations by allowing for a high flexibility with regard to measuring cellular markers. This new technology discloses means and methods for the stepwise analysis of any source of living cells that are self-immobilized within microfluidic chips. While using small sample volumes and cell numbers, the technology allows for the analysis of virtually unlimited numbers of intracellular

and surface markers even on living immune cells. This can be combined with functional tests of these cells like calcium flux measurement on a single cell basis. Automated single-cell recognition software provides numerous options for marker combination analysis and strategic experimental conception.

Commercial Opportunity

In-licensing for integration in existing technology platforms, or cooperation for further development of the scientific and diagnostic potential of this system is possible.

Developmental Status

The technology has been successfully evaluated in both research and clinical settings.

Patent Situation

Two German patent applications have been filed in 2008.

Further Reading

A recent publication about the technology is available online:

Hennig et al. (2008) A versatile platform for comprehensive chip-based explorative cytometry. Cytometry Part A, published online 11 Nov 2008.

Confidential information e.g. about patent applications available after signing a CDA.

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