Microfluidic technologies for Sample Preparation
The objectives of the report are the following:

• Help technology developers to understand the market needs, from the system integrators and diagnostic companies to the end-users, in order to adapt their developments in the right direction.

• Help system integrators and diagnostic companies to identify innovative solutions that may bring them added value compared to their competitors, with the final objective to help the end-users when dealing with sample preparation.

To achieve these objectives, the current report aims to:

• Provide an overview of current bottlenecks in sample preparation

• Make a specific focus on sample preparation for Next-Generation Sequencing, Single-Cell and Molecular Diagnostics (including point-of-care and trace analysis)

• Provide a review of reference technologies vs. emerging microfluidic technologies

• Propose 2015-2020 forecasts for microfluidics for sample preparation in single-cell and NGS markets

• Analyse the market and technology trends

• Analyse the supply chain and make a map of main players per technology/application

• Provide a business case on NGS sample prep: microfluidic automation vs. reference solutions, return on investment analysis
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FOCUS OF THE REPORT

Areas of interest

A few diagnostic tests do not require sample preparation and can perform a direct detection, e.g. blood glucose measurement or urine pregnancy tests. Other tests require only a few steps, easily performable off- and on-chip today. This report will rather focus on specific applications of in-vitro diagnostics where the sample preparation is challenging, where no (or only few) microfluidic solutions today compete with gold standards.
MARKET DATA

Microfluidics for sample preparation market

Numerous graphs with detailed market data analysis

Microfluidics for Sample Prep Market ($M)

- Microfluidics for Molecular Diagnostics Sample Preparation
- Microfluidics for Genomics Sample Preparation
- Microfluidics for Single Cell

CAGR 2015-2020: 24%

Market data and forecasts based on the top players’ sales, on information gathered during phone interviews with experts involved in the field, and on our market trends analysis
Several microfluidic technologies used for sample preparation have been listed and explained.
### SINGLE CELL

#### Isolation techniques (1/2)

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<th>Advantages</th>
<th>Drawbacks</th>
<th>Players</th>
<th>Sample type</th>
<th>Cost</th>
<th>Comments</th>
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<tr>
<td>- High throughput</td>
<td>- Inefficient for low-volume samples or for low-concentration targets (e.g., small target cell per million)</td>
<td>- Medium throughput</td>
<td>Liquid</td>
<td>★★★★★</td>
<td>- Most used technique (flow cytometry)</td>
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<td>- Numerous available fluorescent antibodies</td>
<td>- Can damage the cells (mechanical stress)</td>
<td>- Low cost</td>
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Review of reference technologies vs. microfluidic technologies

Advantages, drawbacks, costs, main players...

Market trends, market drivers

Who needs what? What is going to happen in the next few years?
Mapping of the players per application and how they are positioned
For each application, innovative products from the both market leaders and new entrants have been listed and reviewed.
NGS SAMPLE PREP – CASE STUDY

Will microfluidics bring impressive cost reduction?

Detailed analysis of the cost difference between current manual methods and future possible microfluidic automation, in different scenarios and various assumptions.

Case study: what will microfluidics bring to NGS sample prep? Who will benefit, why, in which extent?
MORE INFORMATION, PLEASE CONTACT

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