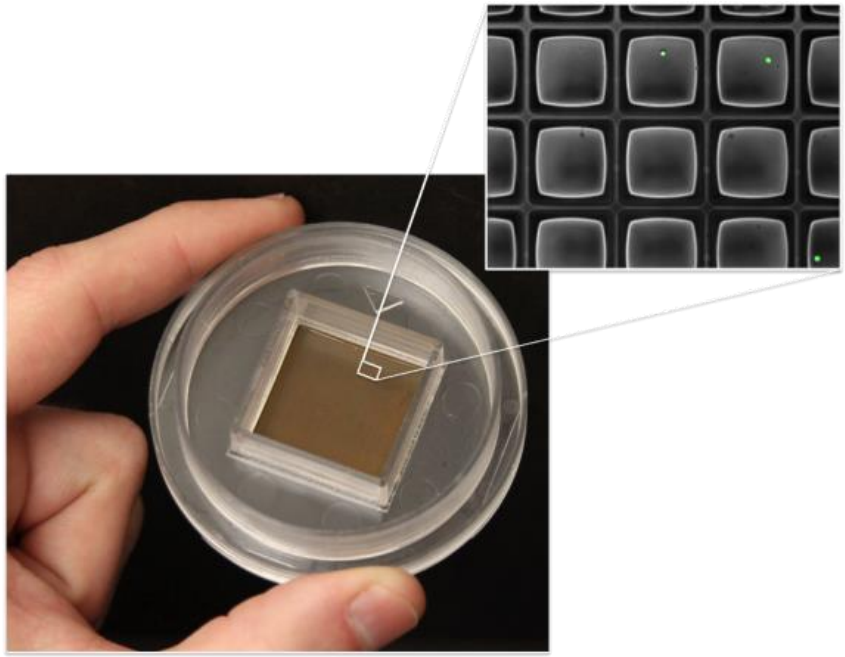
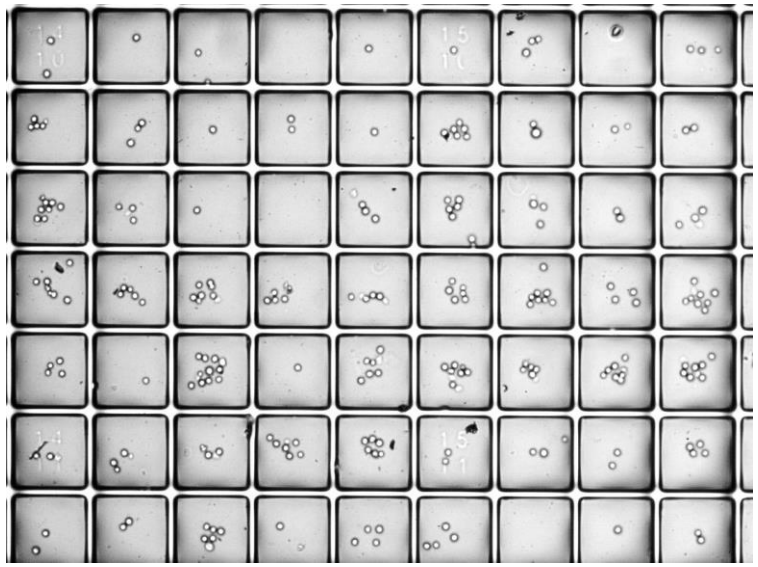
QIAscout 单细胞分选仪

QIAscout consumable: Array





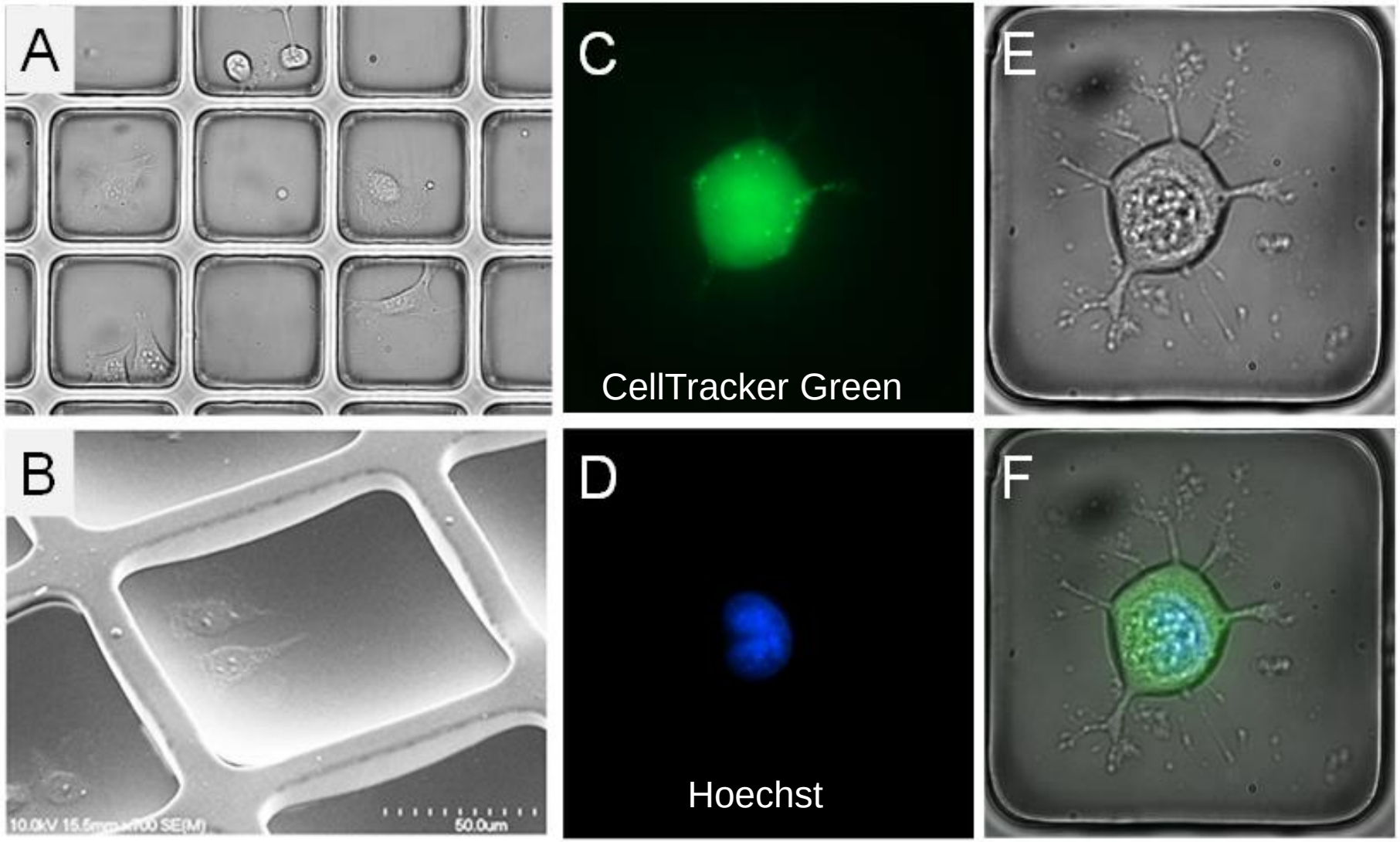
- Can be used as standard cell culture dish
- Microrafts are magnetic, dislodgeable and self-sealing
- Each array contains 12,000 microrafts

- Cells settle according to Poisson distribution
- 6000 cells means a 30% chance of having a singe cell in a microraft

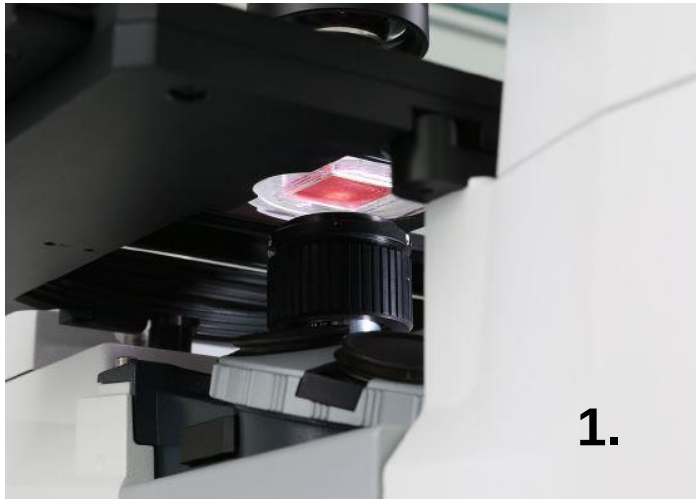
适用的细胞类型：

Adherent cells have to actively adhere to the raft, whereas suspension cells have to be immobilized with an adhesive solution
For active adherence of adherent cells, cells have to be viable
When using CellTak cells do not have to be viable (in theory, we never tested Cell Tak with dead cells)

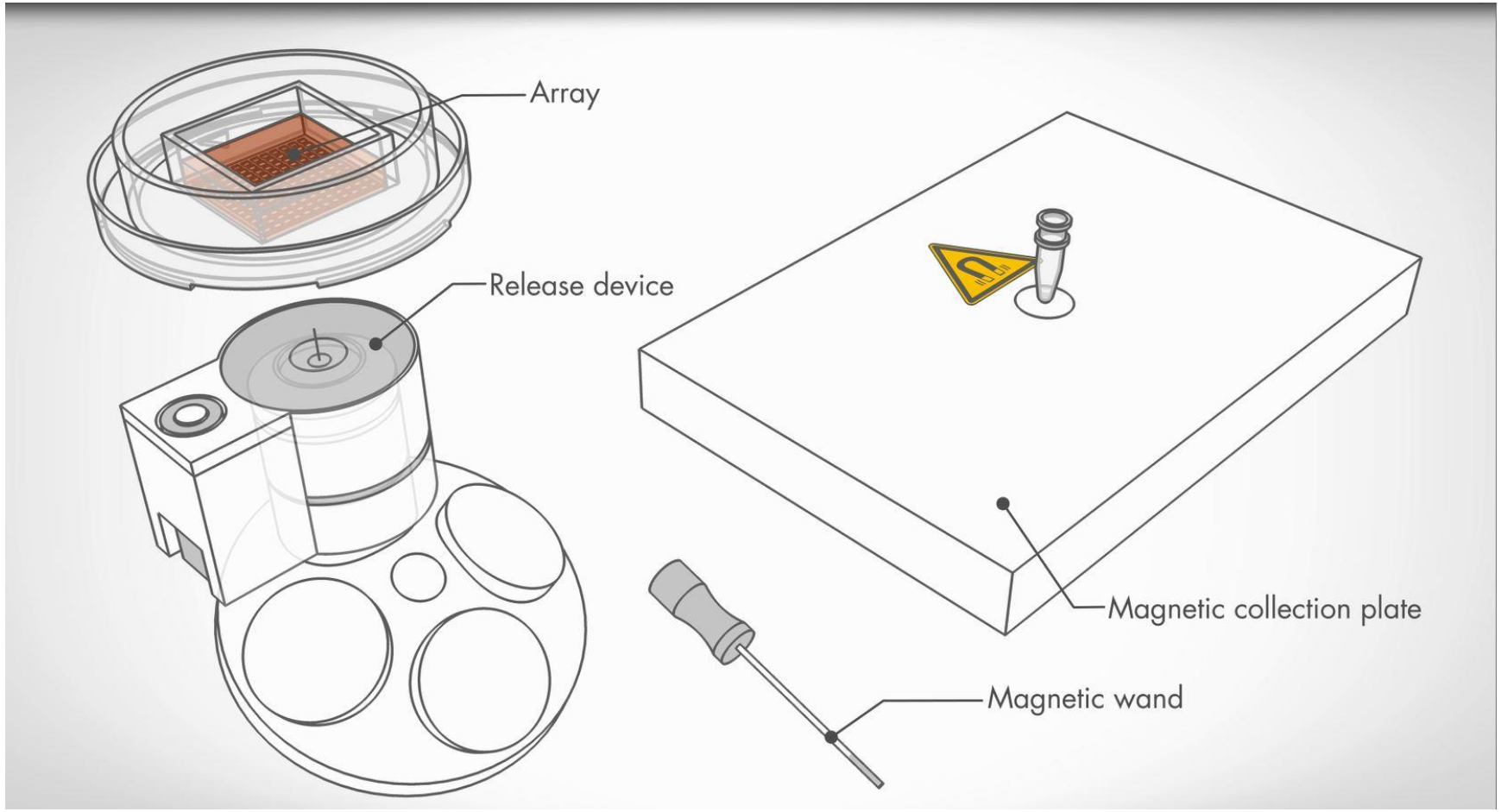
Cells can be imaged directly on the array by brightfield or fluorescence



Retrieving your cell



Components of the QIAscout system



Understand the elegant simplicity of the QIAscout on YouTube

QIAscout 和已有单细胞选择方法相比的一些优点

All samples collected were further processed for amplification of genomic DNA from the single cells using the REPLI-g® Single Cell Kit (refer to *REPLI-g Single Cell Handbook* for further details, see Protocol: Amplification of Genomic DNA from Single Cells). The PyroMark® PCR Kit was used to amplify the DNA and this was then analyzed by Pyrosequencing® using the PyroMark Q48 Autoprep. Three Pyrosequencing reactions were performed per sample in order to identify each single cell for the presence of one cell line-specific mutation:

1) HT-29 (round cells, specific mutation: BRAF c.1799T>A)
2) LoVo (elongated cells, specific mutation: APC c.3340C>T)
3) SW48 (round cells, specific mutation: EGFR c.2155G>A)

* Availability depends on the country.

QIAscout 比稀释法和枪头吸取法获取单细胞效果更好

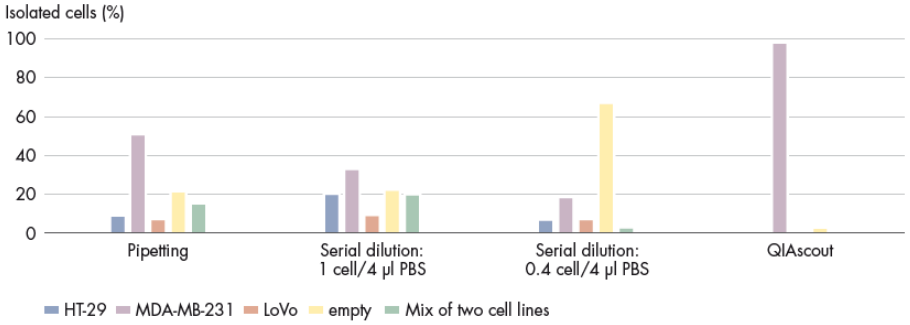


Figure 3. Comparison of three different methods used for selective isolation of single fluorescent cells. Aim of this experiment was to isolate single fluorescent cells using pipetting, serial dilution (using two different concentrations of cells per 4 µl PBS) and the QIAscout method.

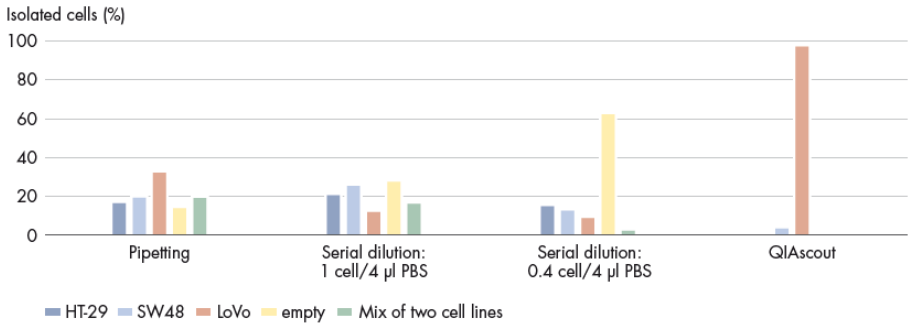
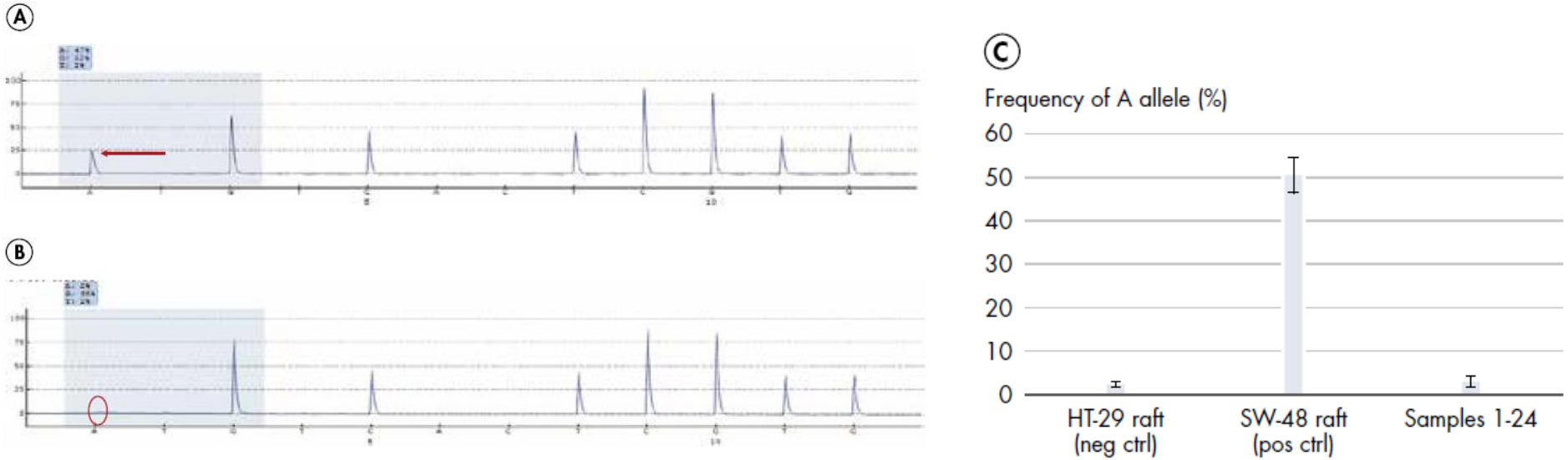


Figure 5. Comparison of three different methods used for selective isolation of single elongated cells. Aim of this experiment was to isolate single elongated cells using pipetting, serial dilution (using two different concentrations of cells per 4 µl PBS) and the QIAscout method.

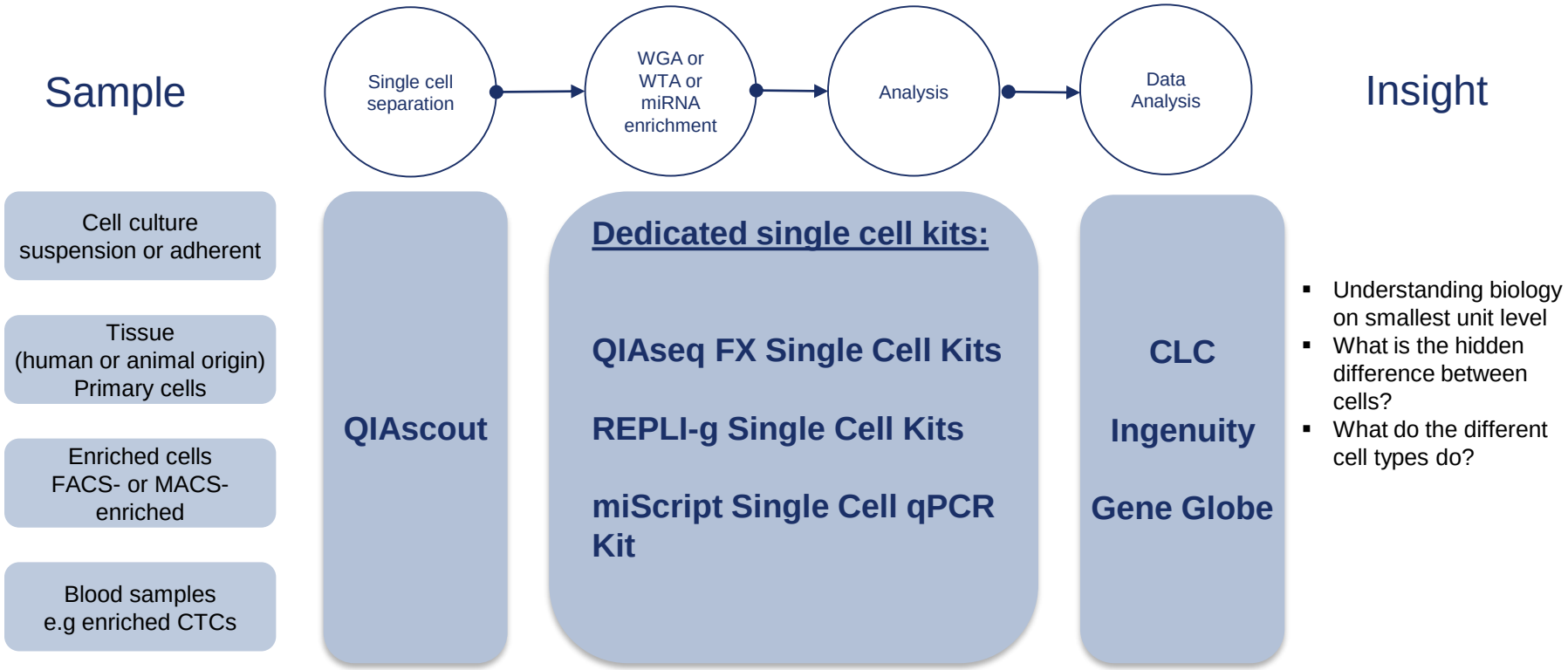
QIAscout 分析单细胞的可靠性



QIAscout 磁棒转移细胞不会引入污染，转移细胞不需清洗磁棒

Figure 3. No cell contamination observed with the magnetic wand in Pyrosequencing analysis. A Representative pyrogram showing the G>A point mutation in the human EGFR gene in a sample with single SW48 cells (positive control). B. Representative pyrogram showing absence of the A allele in single HT-29 cells, transferred with the same unwashed magnetic wand as the SW48 cells. C Frequency of the A allele in two pierced HT-29 cells (negative control), two pierced SW48 cells (positive control) and 24 pierced HT-29 cells. Single SW48 cells transferred using a clean magnetic wand (positive control) show a mean frequency of A allele (=point mutation) of 50.7%. Pierced single HT-29 cells transferred using an unwashed magnetic wand and analyzed for the presence of SW48 cell contamination showed a similar frequency of A allele when compared to the pierced single HT-29 cells transferred using the clean magnetic wand (negative control), indicating no contamination between the two cell lines, the arrays and the microrafts.

Workflow solutions



- Understanding biology on smallest unit level
- What is the hidden difference between cells?
- What do the different cell types do?