Product Specification Sheet

Genome Scan

Gene Expression | Total Transcriptome | Ultra low input | Small RNA Sequencing | FFPE Tissue | **Single Cell Sequencing**

Single Cell RNA Sequencing

(3′-mRNA expression based on poly-A selection)

Gene expression analysis at single cell resolution

Single cell sequencing allows you to study any cell population – as a whole or pre-sorted – and create gene-expression profiles on each cell individually. It bypasses the need for sorting based on known markers. Your cells will be clustered in an unbiased way, based on individual gene expression profiles. Single cell sequencing poses unique challenges since it requires guidance in optimal handling and fixation of dissociated cell suspensions. GenomeScan has set up a streamlined workflow and logistics strategy to optimally preserve the biological relevance.

Expert data analysists can help explore your data by performing integrative analyses, and summarize the thousands of separate gene-expression experiments into comprehensive intuitive figures and tables.

Input material

- Freshly isolated or fixated cell populations
- Optimal amount for unbiased clustering: 1000 cells
- Any number of cells, up to 50.000

Sample preparation and sequencing

- Chromium RNA technology of 10X Genomics
- Illumina NovaSeq 6000 (PE 150)
- Standard read depth 35K per cell

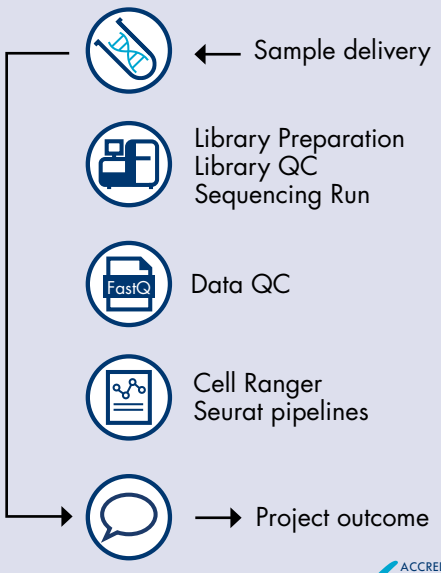
Deliverables

- Cell Ranger data
- PCA analysis, heatmap, differentially expressed gene tables with significance levels

Data-analysis (optional)

- **Group comparisons within multiple samples**
- Statistical correction analyses (PCA, t-SNE plots, and differential gene expression analysis)

NGS Laboratory workflow



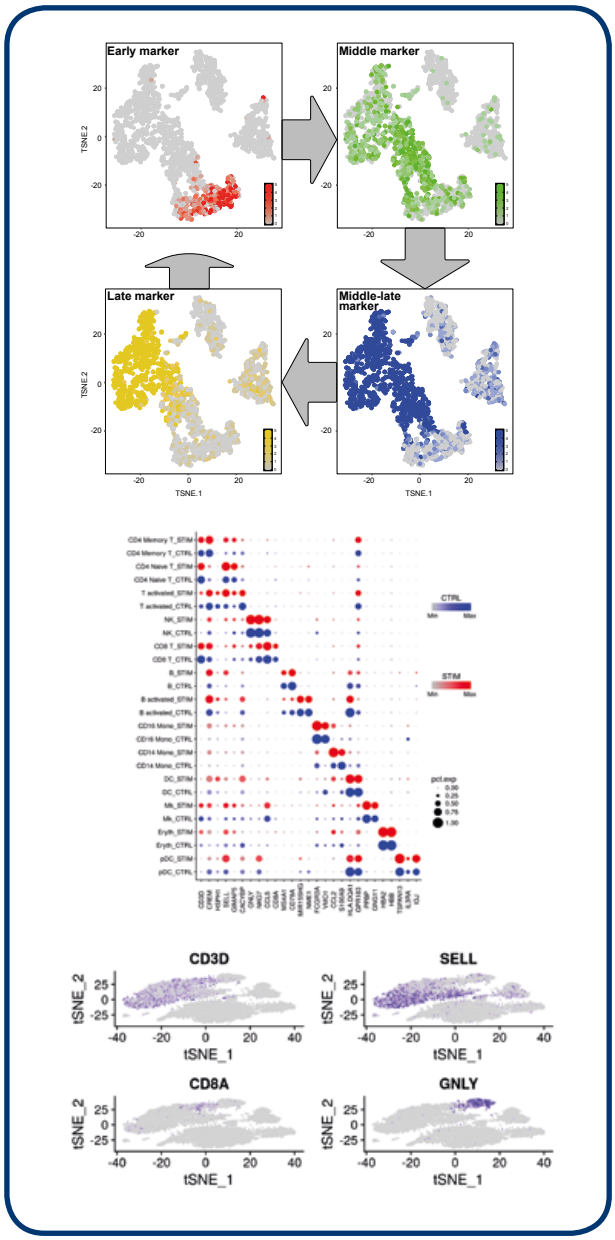
ACCREDITED ISO/IEC 17025 L518 By RvA

Committed to your project

Truly understand cell-to-cell variability
Employ the power of unsupervised clustering based on the gene-expression of each individual cell.

Expert data-analysis solutions
Rely on in-depth bioinformatics and statistical data-analysis experience. A bioinfomatician dedicated to your project will guide you towards an optimal analysis strategy.

Publication ready results
Intuitive visualization of cell clusters and variable genes in Cell Ranger allow you to optimally represent the heterogeneity in your sample.



Single cell RNA sequencing (scRNA-seq)

Don't miss a single cell!

GenomeScan collaborates with 10x Genomics and Illumina to offer the most robust single cell analysis method on the market. Validation tests have shown that the reproducibility in combination with high throughput is optimal to run clinical-grade projects.

Biological Insights

- Investigate rare cell populations (stem cells, primary cells or cells refractory to treatment)
- Monitor cellular regulation and differentiation
- Observe drug responses within cell populations and/or over time
- Discover new biomarkers

Data analysis options

Each project is pre-loaded into Cell Ranger, an interactive visualization tool that will kickstart your data exploration. You can understand the heterogeneity within each sample based on the expression of known markers or discover new transcripts.
For comparative analysis, we developed customized pipelines based on industry-leading methods.
Various statistical analyses such as data cleaning, sample correction and normalization are used to extract biologically relevant changes. Your easy-to-read report summarizes the most relevant information and visualizes the data in tables and figures.
Multiple levels of quality controls ensure read integrity and biological plausibility of the results.

- A dedicated Project Specialist will optimize your experimental design, pre-sample treatment and logistics
- You receive an interactive analysis report with t-SNE cluster plots and fold change tables
- Expert bioinformaticians provide you with full support on comparative data-analysis
- This service is part of our ISO/IEC 17025 accreditation scope

About GenomeScan

As an ISO-accredited leading Dutch Next Generation Sequencing service provider, GenomeScan develops customizable NGS solutions for pharmaceutical and biotech companies, health care providers and academic institutions. By providing new tools to analyze genetic disorders quicker, affordably and effectively, GenomeScan fosters innovation through partnership with medical centers and research laboratories.

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