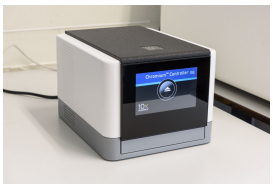
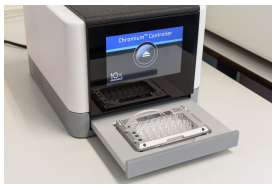
Chromium™ Controller

https://search.researchequipment.wur.nl/SearchDetail.aspx?deviceid=fb6e2927-bb85-4a1b-a219-4c908eaef036





Brand

10xGenomics

Type

Contact

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Organisation

Plant Sciences Group

Department

Bioscience

Description

The 10XGenomics Chromium microfluidics system dilutes long DNA molecules (including >100 Kb) to millions of uniquely barcoded partitions thereby resulting in high quality long distance (short) linked reads. This long range information can be applied on genome-wide or even at population scale providing high quality structural variant calling, phasing and extensive characterization of genomic structure.
Libraries prepared on the Chromium platform will be analysed using illumina HiSeq short read sequencing, thus combining long distance information with highest sequence quality.
Key advantages of the 10XGenomics Chromium include:
• Long distance linked reads (including >100 Kb);
• Low DNA input (1 ng of gDNA);
• Genome, exome, targeted and single cell transcriptome applications;
• Genome structural variant information and haplotype phasing.

Technical Details

• 10XGenomics Chromium microfluidics device;
• Long distance linked read information using 4 million barcoded partitions;
• Multi-sample option: 8 independent sample wells per chip;
• Linked short reads derived from millions of large (50 to >100 kilobases) DNA molecules;
• In house combination of U-HMW gDNA isolations, 10XGenomics library preparation and illumina sequencing;
•
Millions of linked reads derived from thousands of individually barcoded cells or nuclei.

Applications

• genome assembly scaffolding;
• single cell transcriptome analysis on cell population level;
• structural variant detection and phasing;
• megabase-scale haplotype phasing;
•
single cell gene expression;
•
single cell multi-omics;
•
single cell ATAC (chromatin accessibility at single cell level).