

GENOMICS CORE FACILITY

CIBR: Center for Innovative Biomedical Resources

CORE INSTRUMENTATION

- Applied Biosystems 3730XL (Sanger sequencing)
- Affymetrix GeneChip system 3000 7G (chip-based arrays, e.g. CytoScan HD, DMET)
- Applied Biosystems 7900 RT-PCR system (genotyping by Taqman©-based methods)
- Applied Biosystems 9700 thermocycler (PCR amplification)
- Nanodrop single-channel and 8-channel spectrophotometers
- ThermoFisher QuantStudio 5
- Ion Torrent Personal Genome Machine (next generation sequencing panels, e.g. Comprehensive Cancer Panel, and Custom AmpliSeq panels)
- Ion Chef System
- Ion S5 Sequencer



MISSION

The mission of the Genomics Core Facility is to provide the technical capability with state-of-the-art instrumentation and the expertise to enable genomic research. Our services can support basic science discovery, translational studies and clinical research and with our Translational Genomics Laboratory, can provide the ability to support the bench to bedside concept. We provide training opportunities for students, fellows, staff, and faculty.

ABOUT

The Genomics Core Facility has been in operation for over 30 years. During that time, we have maintained a commitment to sustain genomic research with state-of-the-art instrumentation, methodologies, and technical capabilities. Since the 1980's, the Genomics Core has supported thousands of grants and publications, with countless numbers published in high-impact journals. Our staff are extremely knowledgeable, the majority of staff having worked in the Genomics Core for 15-20 years. In addition to standard services, we can assist in customizing services based on your needs, especially in the area of DNA sequencing.

CORE SERVICES

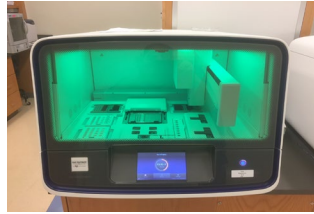
- Cytogenomic Arrays
- Extraction of Nucleic Acid
 - DNA
 - RNA
- Gene Expression Arrays
 - Global Expression Profiling
 - miRNA Expression Profiling
 - Transcriptome Analysis
- Genotyping
 - Taqman Assays
 - SNP Arrays (targeted or GWAS studies)
- Next Generation Sequencing (NGS) Gene Panels
- Sanger DNA Sequencing

GENOMICS CORE FACILITY

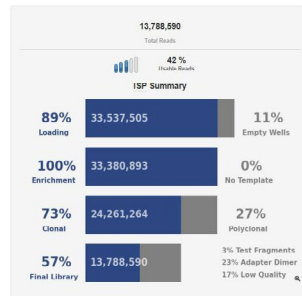
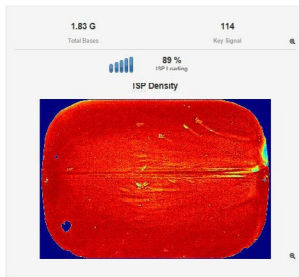
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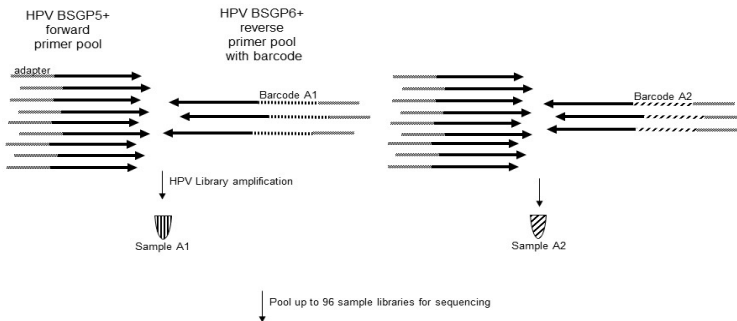
Ion Torrent S5



Ion Chef



ISP Loading/Run Summary



Schematic of Ion Torrent HPV Genotyping Assay. The HPV gene target in each DNA sample is amplified using fused primers based on the BSGP5+/6+ primer system. Reverse primers append an Ion Adapter and Barcode before the gene-specific sequence. Forward primers append the Ion Adapter only. Ambulos, et. al., *J. Biomolec. Tech.* 2016;27(2):46-52. PMCID: PMC4802743.

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