

Next Generation DNA Sequencing For Research

High throughput long and short read sequencing solutions to accelerate your experimental goals



Beckman Coulter Genomics offers next generation sequencing services designed to meet the evolving DNA sequencing needs of academic, biotechnology and pharmaceutical researchers worldwide. Beckman Coulter Genomics recognizes that the requirements of any research project derive from a unique combination of the experimental goal and the technical design. A multi-platform next generation approach allows the flexibility of experimental design required to meet the objectives of a wide range of projects, irrespective of scale.

Next Generation Sequencing Platforms

- Roche* 454 GS FLX+
- Illumina* HiSeq 2000
- Illumina GAllx

Next Generation Sequencing Applications

Depending upon the nature of your research question next generation technologies can be devoted to horizontal genomic coverage or to vertical coverage such as deep sampling of metagenomic samples, tumor samples, PCR[†] products or small RNAs. Beckman Coulter Genomics has applied next generation sequencing techniques to diverse templates from genomic DNA to cDNA to PCR amplicons, derived from an assortment of organisms ranging from algae to pine, from bacteria to human.

Beckman Coulter Genomics routinely supports applications such as:

- *Whole Genome Sequencing*
- *Targeted Resequencing*
- *De novo sequencing*
- *Metagenomics*
- *RNA-Seq*
- *ChIP-Seq*

Spotlight Services

Whole Genome Sequencing - Leverage Beckman Coulter Genomics successful merger of the chemistries and instrumentation of high-throughput genomics and experience with data management for large-scale sequencing projects. A variety of whole genome sequencing solutions for *de novo* and resequencing projects are available.

Targeted Resequencing - Beckman Coulter Genomics has developed a fully automated pipeline for targeted resequencing utilizing Agilent SureSelect* chemistries. This solution is well suited to projects with a focus on key genomic regions of interest, providing scalable, cost-efficient sequencing of relevant samples in small or large quantities.

16S Metagenomics - Beckman Coulter Genomics provides a modular service typically comprised of sequence adapter ligation, sequencing and downstream bioinformatics. Amplicons encompassing several variable regions of the 16S gene can be sequenced to generate clonal sequences allowing taxonomic identification down to the genus level.

Adventitious Agents Discovery - Test biological products for the presence of any known RNA agents with unprecedented sensitivity, using RNA-Seq on the Illumina HiSeq 2000. Beckman Coulter Genomics, through partnerships, provides optional upstream cell line induction and downstream regulated confirmation analysis using qPCR.



Maintaining Quality on the Cutting Edge

Responsible Strategies - Most projects are discussed in terms of achieving the data required rather than the number of runs to be purchased. By anchoring a strategy around your research objective rather than the per run throughput we can provide the best path for you to achieve the results you need.

Reliable Services - Next generation sequencing platforms are maintained current to the latest upgraded specifications from the vendors. New applications, upgraded equipment and improved protocols are carefully validated prior to release to ensure the same data quality and provider integrity long associated with Beckman Coulter Genomics.

Project Support - Beckman Coulter Genomics sequencing experts consult with clients on next generation sequencing needs to ensure the most appropriate technology and experimental approach are combined with sufficient sequencing depth to achieve the desired goals. Clients are assigned a dedicated project manager. This technical contact is available for client communication throughout the project lifecycle.

Data Management - A team of bioinformatics specialists oversee data analysis and ensure that clients are able to take full advantage of the large amount of data generated by the next generation technologies. Standard deliverables include consensus genome assemblies, individual reads with associated quality scores and SNP calling. Depending upon the project scope data can be accessed via secure FTP site or is received on a portable hard-drive.

Trusted Partner

- Sequencing service provider to customers worldwide including the top 20 Pharma companies
- Experienced staff deriving from institutions of academic and commercial excellence
- Consultation on experimental design
- Dedicated project managers
- Proven results published in top journals
- Provider of DNA sequencing data resulting in over 350 published articles

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† The PCR process is covered by patents owned by Roche Molecular Systems, Inc., and F. Hoffman-La Roche, Ltd.

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For more information go to www.beckmangenomics.com or contact your local sales representative.

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