

# DNA Sequencing for Research

Expert Sanger and Next Generation solutions to support your experimental goals

Beckman Coulter Genomics recognizes that the DNA sequencing requirements of any research project derive from a unique combination of the experimental goal and the technical design. Sanger sequencing combined with a complete portfolio of Next Generation DNA sequencing technologies enables Beckman Coulter Genomics to support DNA research requiring traditional, Next Generation and hybrid DNA sequencing solutions. Cross platform proficiencies allow the flexibility of experimental design required to meet the objectives of a wide range of projects, irrespective of scale.

### Comprehensive Technologies

Beckman Coulter Genomics uses the most advanced technologies to offer clients a wide array of services that encompass a broad scope of sequencing needs. Technical experts consult with clients on their experimental design, leveraging cross-platform knowledge to ensure the most appropriate technology, or combination of technologies are selected to achieve their unique research goal.

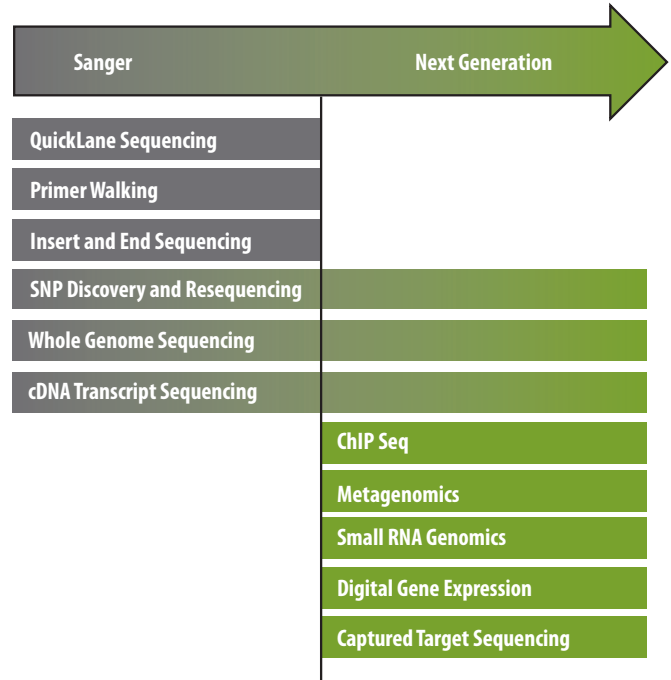
- Sanger Sequencing
- 454 Life Sciences\* GS FLX Pyrosequencing
- Applied Biosystems SOLiD\* Sequencing
- Illumina\* GAllx Sequencing

**Sanger Sequencing** - Still the gold standard in DNA sequencing, Sanger sequencing services are available for applications that range from single sample quick turnaround sequencing to sequencing for SNP discovery to publication quality whole genome finishing. A highly automated Sanger sequencing pipeline, powered by Beckman Coulter robotics and the patented Solid Phase Reversible Immobilization (SPRI) paramagnetic bead-based technology, enables the rapid delivery of long reads of the highest quality.

**Next Generation Sequencing** - The massively parallel sequencing capacity of Next Generation technologies enables sequencing projects previously prohibited by cost or technical constraints. Beckman Coulter Genomics maintains Next Generation sequencing platforms 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 integrity long associated with Beckman Coulter Genomics award winning Sanger services.

A multi-platform sequencing suite can meet the sequencing needs of each individual customer.

- *De novo* or re-sequencing
- Draft or finished sequencing
- Long or short read sequencing
- Fragment or mate-paired sequencing



I need a sequencing provider to understand the value of my data and who understands the science and can deliver on my goals.

**We Get It.**

## Extensive Applications

Beckman Coulter Genomics offers a full range of sequencing services for individual samples, high-throughput projects and custom strategies. The combination of manufacturing principles with scientific expertise facilitates high quality data generation for diverse applications. Beckman Coulter Genomics routinely supports applications such as:

- QuickLane Rapid Turnaround Sequencing
- Whole Genome Sequencing
- Primer Walking and Genome Finishing
- Large and Small Insert Sequencing
- BAC Insert and End Sequencing
- SNP Discovery and Resequencing
- cDNA Transcript Sequencing
- smallRNA and Digital Gene Expression Tag Sequencing

## Spotlight Services

*QuickLane Sequencing* - Beckman Coulter Genomics fully-automated genomics pipeline and powerful data management systems allow the rapid turnaround of high quality sequence data for individual samples. The QuickLane research sample sequencing service uses barcode driven sample tracking and a state-of-the-art SPRI enabled Sanger sequencing pipeline, to reliably deliver long sequencing reads and accompanying quality score reports within 24 hours of sample receipt.

*Whole Genome Sequencing: Draft to Finished* - 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 re-sequencing projects are available. Or supplement Next Generation whole genome shotgun sequencing with proven Sanger finishing strategies, including custom primer walking, to reach publication quality on your whole genome sequence.

*SNP Discovery and Resequencing* - Beckman Coulter Genomics has developed a fully-automated software package for candidate gene driven assay design applicable to any single nucleotide polymorphism (SNP) detection project even in difficult genome regions. The Beckman Coulter Genomics automated PCR<sup>†</sup> pipeline can be supplemented with Sanger sequencing or, particularly for rare mutation detection, Next Generation sequencing.

## Data Analysis and Project Support

High quality data is only part of an effective sequencing solution. Beckman Coulter Genomics has a staff of expert scientists able to consult on experimental design and a team of bioinformatics specialists to oversee data analysis. Dedicated Project Managers act as liaisons throughout the duration of projects to ensure a positive experience from sample submission to data retrieval.

## 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 and nearly 1.2 million entries in the NCBI nucleotide database

## Complete Solutions from Discovery to Validation

Combine DNA sequencing with other Beckman Coulter Genomics services for complete research solutions. Apply your SNP discovery data to large scale genotyping studies. Use your newly sequenced reference transcriptome to design high-throughput microarray experiments. Initiate your experiment with DNA and RNA extraction services. Contact Beckman Coulter Genomics to discuss complete solutions for your research project.

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† The PCR process is covered by patents owned by Roche Molecular Systems, Inc., and F. Hoffman-La Roche, Ltd. Beckman Coulter, the stylized logo, SPRI and QuickLane are registered trademarks of Beckman Coulter, Inc.

For more information, please visit our website at [www.beckmangenomics.com](http://www.beckmangenomics.com) or contact your local sales representative.

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