

# Illumina Workflow Design and Evaluation Service

Try next-generation sequencing or BeadChip technology with customer-provided samples using a fully customized, sample-to-data Illumina service.

## Highlights

- Evaluate Illumina technology before investing**  
 Explore and gain confidence in next-generation sequencing (NGS) or BeadChip (microarray) technology before an instrument purchase
- Analyze customer-provided samples with Illumina technology**  
 Evaluate NGS or BeadChip workflows, compare results to current or alternative methods, and streamline operations with customer-provided samples
- Gain access to personal consultations and predefined workflows**  
 Accelerate startup time with optimized NGS or BeadChip workflows and data analysis solutions
- Easily generate support data for grants**  
 Work with experienced Illumina scientists to rapidly generate data for grant submission and advance research goals

## Introduction

When considering the move to NGS or BeadChip technology, scientists are confronted with many decisions regarding choice of instrumentation, applications, throughput requirements, and turnaround time. In addition, scientists must determine whether preconfigured workflows are available for specific applications and how data from a new system will compare to methods currently used in the laboratory. To address these questions and provide confidence, Illumina offers a wide range of evaluation services including fully supported NGS library preparation and BeadChip workflows on a wide range of Illumina instruments (Figure 1).

## Streamlined and personalized workflows

The Illumina Workflow Design and Evaluation Service begins with a consultation between an experienced Illumina scientist, the Illumina Solutions Center, and the customer to determine the most appropriate sample-to-data solution for their specific testing needs (Figure 2). Illumina scientists work collaboratively with the customer to design and customize the experimental parameters, including coverage requirements, number of samples, required controls, library preparation protocol, and data analysis options. Customer-provided samples are then processed by experienced scientists at the Illumina Solutions Center.

## Workflow Design and Evaluation Service

Submitted samples first undergo a quality control assessment. Samples are then processed through the NGS or BeadChip workflow selected by the customer. Customers can choose from a broad range of data analysis tools. For BeadChip workflows, data is analyzed and visualized with the GenomeStudio™ Software, which includes analysis modules for genotyping, gene expression, and methylation array data. For NGS workflows, data can be analyzed using BaseSpace™ Sequence Hub, the Illumina cloud-based genomics computing environment. Available NGS data analysis pipelines include variant detection, *de novo* assembly, gene fusion detection, differential RNA expression analysis, tumor-normal analysis, metagenomics, and more.

For projects requiring a custom analysis solution, customers can work with a dedicated bioinformatician from our Illumina Bioinformatics Services team. Custom analysis provides an advantage for customers who are working with processes or species currently not supported through BaseSpace Sequence Hub. For custom targeted sequencing applications, sequencing panels can also be created for human and non-human species



Fully supported  
library preparation protocols

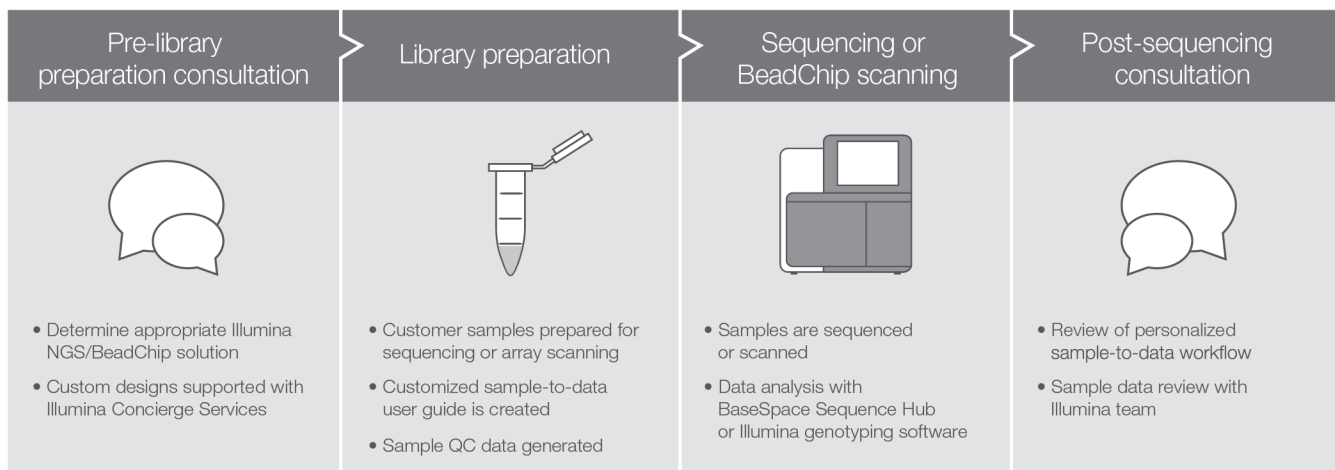


Fully supported  
BeadChip protocols



Fully supported  
sequencing solutions

**Figure 1: Illumina Workflow Design and Evaluation Services overview**—The customized sample-to-data Workflow Design and Evaluation Service gives customers the flexibility to submit samples to be run on any Illumina instrument with any Illumina protocol.



**Figure 2: Workflow Design and Evaluation Service Process**—Provides rapid data delivery for any Illumina system or application.

through Illumina Concierge Services. During the post-experiment consultation, the Illumina scientist and the customer review the entire workflow, from initial QC results to final data analysis. All deliverables, including generated data and analysis reports, are provided back to the customer through BaseSpace Sequence Hub or an external hard drive.

### Analyze customer-provided samples with Illumina technology

Rather than relying on data from common reference samples, the Workflow Design and Evaluation Service will generate and provide data from customer-provided samples. This allows researchers to determine how their own samples will likely perform on Illumina platforms using Illumina library preparation protocols. Furthermore, customers can compare the Illumina workflows and data to their current methods. Performing a trial run with Illumina Workflow Design and Evaluation Service provides valuable experience with NGS or BeadChip workflows and can build the foundational knowledge and confidence needed to move forward.

### Accelerate the NGS and BeadChip learning curve

By establishing custom protocols and analyzing data from their own samples, researchers gain an advantage during the implementation and startup phase of integrating new NGS or BeadChip technology. The combination of individualized consultations, personalized protocols, and optimized workflows provides valuable knowledge and experience that can accelerate the journey towards successful genomics research.

### Summary

By gaining access to Illumina technology, scientific consultants, and NGS or BeadChip data from customer-provided samples, the Illumina Workflow Design and Evaluation Service provides a valuable opportunity to perform a trial run before committing to a new system. With an in-depth preview of Illumina NGS and BeadChip workflows, the Workflow Design and Evaluation Service provides the experience and confidence customers need before making critical decisions for their laboratory.

### Ordering information

Illumina Workflow Design and Evaluation Services <sup>a</sup>	Catalog no.
BeadChip Kit Service	20013962
iSeq™ 100 System Service	20023613
MiniSeq™ System Service	20003924
MiSeq™ System Service	15067735
NextSeq™ 550 System Service	15067736
NovaSeq™ 6000 System Service	20016091

a. There is a 10 sample maximum for all Workflow Design and Evaluation Services which require in-house sample preparation.

### Learn More

To receive additional information, place an order, or inquire about the Illumina Workflow Design and Evaluation Service, contact your local Illumina account manager or contact Illumina Customer Solutions within United States at 1.800.809.4566 ext.1 or outside the United States at 1.858.202.4566.