

# Illumina Concierge Services

Experience DNA-to-data or RNA-to-data custom designs, wet-lab testing and optimization services, and dedicated assistance from experienced Illumina scientists.

## Highlights

- **Enhance Sequencing and Infinium® BeadChip Designs**  
Gain confidence in your custom targeted resequencing or custom microarray design and access extended design capabilities
- **Access Wet Lab Testing and Optimization Services**  
Achieve high coverage uniformity across target regions
- **Explore Custom Proof-of-Concept Services**  
Analyze user samples with custom panels or microarrays on a variety of Illumina systems
- **Benefit from Concierge Custom Bioinformatics Solutions**  
Work with the Concierge team to create a custom analysis solution tailored to your needs

To address these challenges, Illumina offers Concierge Services, a suite of services providing assistance and customization for every step in the Illumina workflow (Figure 1). Any step in the workflow can be provided as a stand-alone service according to customer needs or services can be combined to provide a comprehensive DNA-to-data or RNA-to-data solution.

## Illumina Concierge Services

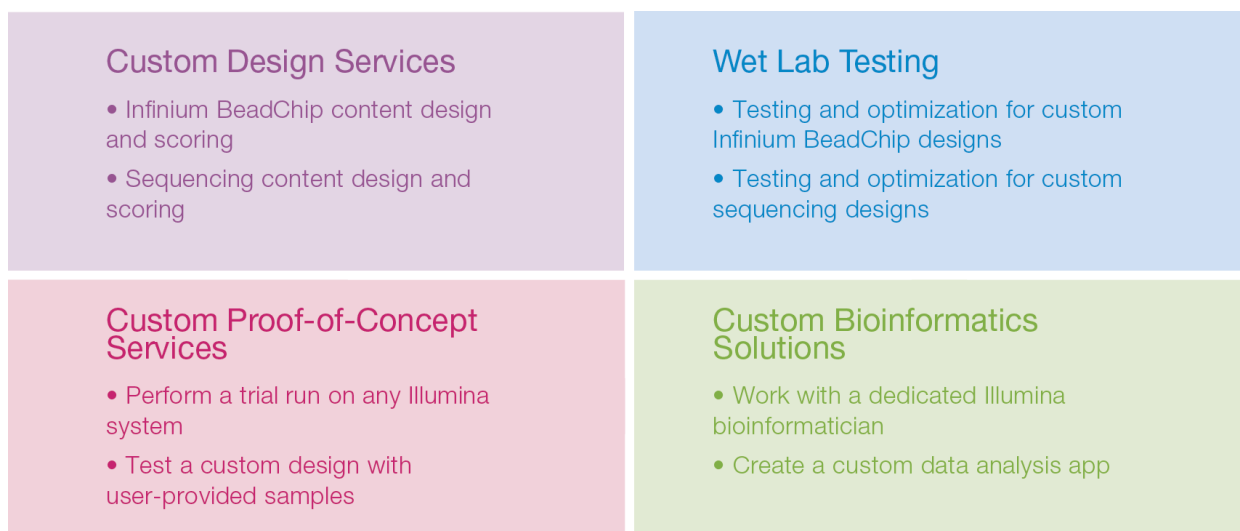
Illumina Concierge Services provides a dedicated, experienced team to assist customers with virtually any step in the Illumina sequencing or microarray workflow (Table 1).

### Basic Infinium Content Scoring Service

With Basic Infinium Content Scoring, the Concierge team assists with scoring customer-provided content using the Illumina DesignStudio™ Microarray Assay Designer. Content must be provided in a file format compatible with DesignStudio Microarray Assay Designer. Services include assistance with scoring large variant lists, consolidating multiparty content submissions, and providing design recommendations for achieving higher conversion rates compared to standard specifications of custom products.

## Introduction

Recent innovations in next-generation sequencing (NGS) and microarray technology have presented scientists with a wide range of applications. These applications include microbial genetics, agrigenomics, population studies, pharmacogenomics, hereditary cancer, cardiovascular disease, and more. With such a broad range of research interests across the scientific community, some researchers find that preconfigured content panels do not meet their needs or do not fit well with specific aspects of their workflows.



**Figure 1: Illumina Concierge Services Overview**—Illumina Concierge Design Services offer flexible design solutions for Infinium® BeadChips, TruSeq® Custom Amplicon panels, Nextera® Rapid Capture Custom Enrichment panels, and TruSeq Targeted RNA panels. Custom Design Services, Wet Lab Testing and Optimization, Custom Proof-of-Concept Services, and Custom Bioinformatics Solutions are available to provide assistance and customization for any step in the workflow.

**Table 1: Illumina Concierge Services**

Concierge Service	Service Description
<b>Basic Infinium Content Scoring Service</b>	<ul style="list-style-type: none"> <li>Concierge experts will score customer-provided custom markers with the Illumina DesignStudio Microarray Assay Designer<sup>a</sup></li> </ul>
<b>Comprehensive Infinium Content Scoring Service</b>	<ul style="list-style-type: none"> <li>Concierge experts will score customer-provided custom markers with the Illumina DesignStudio Microarray Assay Designer<sup>a</sup></li> <li>Concierge experts will convert customer-supplied content files into file formats compatible with DesignStudio Assay Designer</li> <li>Concierge experts will perform probe design for challenging custom markers</li> </ul>
<b>Basic Sequencing Design Service</b>	<ul style="list-style-type: none"> <li>Concierge experts will design TruSeq Custom Amplicon, Nextera Rapid Capture Custom Enrichment, or TruSeq Targeted RNA Expression panels for species normally supported by DesignStudio Software<sup>b,c,d</sup></li> </ul>
<b>Comprehensive Sequencing Design Service</b>	<ul style="list-style-type: none"> <li>Concierge experts will design TruSeq Custom Amplicon, Nextera Rapid Capture Custom Enrichment, or TruSeq Targeted RNA Expression panels for species normally supported by DesignStudio Software<sup>b,c,d</sup></li> <li>Design support for complex, oversized TruSeq Custom Amplicon panels</li> <li>Additional customization of probe sets</li> </ul>
<b>Wet Lab Testing and Optimization Service</b>	<ul style="list-style-type: none"> <li>Testing and enhancing functional performance of TruSeq Custom Amplicon and Nextera Rapid Capture Custom Enrichment sequencing panels</li> </ul>
<b>Concierge Custom Bioinformatics Solutions</b>	<ul style="list-style-type: none"> <li>Work with a dedicated Illumina bioinformatician</li> <li>Create a custom data analysis app for BaseSpace<sup>®</sup> Sequence Hub, BaseSpace Onsite, or analysis workflows outside of BaseSpace Sequence Hub</li> <li>Work with species not normally supported in BaseSpace Sequence Hub</li> </ul>
<b>Concierge Custom Proof-of-Concept Service</b>	<ul style="list-style-type: none"> <li>Perform a trial run on any Illumina system</li> <li>Test custom designs with user-provided samples</li> <li>Obtain custom protocols, sequencing data, and analysis reports</li> </ul>

a. The Concierge team does not assist with variant content selection as part of Infinium Content Scoring Services.

b. Concierge Services may not be able to achieve full design coverage for all target regions *in silico*, for example, regions with low specificity or high GC content.

c. *In silico* coverage is not a predictor of functional performance; targets covered by probes or amplicons may still have low or no coverage.

d. The Concierge team cannot guarantee performance specifications for certain design manipulations, such as designs for species with incomplete reference genomes.

### Comprehensive Infinium Content Scoring Service

Comprehensive Infinium Content Scoring Service includes all Basic Infinium Content Scoring services as well as assistance with converting customer-provided custom content files into a file format compatible with DesignStudio Microarray Assay Designer. The Concierge team checks to make sure that customer-provided content contains all necessary information (eg, pulling additional flanking sequence if needed) and provides manual probe design for challenging custom markers.

### Basic Sequencing Design Service

With Basic Sequencing Design Service, the Concierge team provides design assistance for TruSeq Custom Amplicon Low Input, TruSeq Custom Amplicon v1.5, and Nextera Rapid Capture Custom Enrichment Library Preparation Kits for species supported by DesignStudio Software. The team uses strategies to close design gaps and improve *in silico* coverage levels. Designs for TruSeq Custom Amplicon panels can be customized beyond standard settings (eg, adjust amplicon length). Nextera Rapid Capture Custom Enrichment designs can be optimized to improve enrichment success. For TruSeq Targeted RNA panels, the team assists with designing amplicons not currently available in the amplicons database.

### Comprehensive Sequencing Design Service

Comprehensive Sequencing Design Service includes all Basic Sequencing Design Services, including support for design of panels for species not supported in DesignStudio Software, design of complex oversized TruSeq Custom Amplicon panels, and customization of library prep workflows not available through DesignStudio Software.

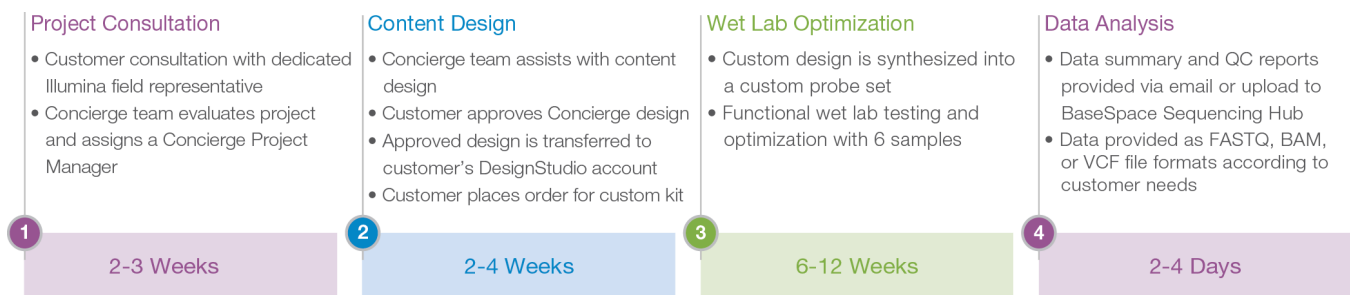
### Wet Lab Testing and Optimization Service

The Wet Lab Testing and Optimization Service focuses on improving coverage uniformity through functional testing and enhancement of regions with low coverage. The service includes library preparation and sequencing of high-quality test samples (three human samples provided by Illumina Concierge in replicate or six nonhuman samples provided by the customer). This service supports TruSeq Custom Amplicon and Nextera Rapid Capture Custom Enrichment for human and select nonhuman panels with turnaround times, from order to delivery, between 6-8 and 10-12 weeks respectively. Upon completion of wet lab testing and optimization, the customer will receive a detailed report with test results. The run data are available upon request and can be released in several formats, including FASTQ, BAM, or VCF file formats. Concierge is committed to enhanced performance metrics for panels that undergo WetLab Testing and Optimization (Table 2).

**Table 2: Wet Lab Testing and Optimization Sequencing Panel Specifications**

Specifications <sup>a</sup>	Coverage	Maximum Plexity (amplicon/probe)
Standard TruSeq Custom Amplicon v1.5	> 80%	1536
Concierge TruSeq Custom Amplicon v1.5	> 90% ± 5%	3000 <sup>b</sup>
Standard TruSeq Custom Amplicon (Low Input)	> 80%	1536
Concierge TruSeq Custom Amplicon (Low Input)	> 90% ± 5%	1536 <sup>b</sup>
Standard Nextera Rapid Capture Custom Enrichment	> 85%	67,000
Concierge Nextera Rapid Capture Custom Enrichment	> 95% ± 5%	10,000 <sup>b</sup>

a. For panels that Concierge Services only helps to design (no testing and optimization), standard marketing specifications apply with exceptions (eg, incomplete genome etc).  
 b. Maximum panel plexity for which enhanced performance metrics apply; panels of larger plexity can be designed.



**Figure 2: NGS Proof-of-Concept Service Workflow**—With Illumina Concierge Services, each step in the workflow can be provided as a standalone service according to customer needs or can be combined to provide a comprehensive DNA-to-data or RNA-to-data solution.

### Concierge Custom Bioinformatics Solutions

Customers can choose from a broad range of data analysis tools in BaseSpace Sequence Hub or work with a dedicated Illumina bioinformatician to create a custom app for their needs. Apps can be designed for BaseSpace Sequence Hub, BaseSpace Onsite, or for analysis workflows outside of BaseSpace Sequencing Hub. Custom app design provides advantages for customers working with species currently not supported through BaseSpace Sequence Hub, or customers looking for extended bioinformatics capabilities. Available data analysis pipelines include variant detection, *de novo* assembly, gene fusion detection, differential RNA expression analysis, tumor-normal analysis, metagenomics, and more.\* For TruSeq Custom Amplicon, Nextera Rapid Capture Custom Enrichment, and TruSeq Targeted RNA Expression panels, custom analysis solutions can also be created for species not normally supported in DesignStudio Software.

### Custom Proof-of-Concept Service

The Illumina Proof-of-Concept Service gives customers the flexibility to test their custom sequencing panels with customer-provided samples on a variety of supported Illumina systems. These include

MiniSeq™, MiSeq®, MiSeq FGx™, NextSeq® 550, HiSeq® Series, and NovaSeq™ Series Systems. With personalized consulting, customized protocols, and delivery of a complete data set, the Proof-of-Concept Service provides a valuable opportunity to test custom sequencing panels, as well as Illumina sequencing systems before investing in a large purchase. Furthermore, by establishing customized protocols and analyzing data from customer-provided samples, scientists can accelerate the learning curve associated with implementation and startup of new Illumina systems.



To learn more about Illumina Proof-of-Concept Services, see the *Illumina Proof-of-Concept Services* data sheet.

### Illumina Concierge Services Workflows

The example workflow in Figure 2 illustrates one of many possible Illumina Concierge Services workflows. The sequencing project includes Project Consultation, Content Design, and Wet Lab Testing and Optimization. The process begins with a consultation between the customer and their dedicated Illumina Field Representative to evaluate the project. Following the initial evaluation, a dedicated Project Manager will be assigned and will contact the customer to discuss project needs and time lines.

\*Subject to available analysis pipelines.

## Summary

With flexible and comprehensive offerings, including Content Design, Wet-Lab Testing and Optimization, Custom Proof-of-Concept Services, and Custom Bioinformatics Solutions, the Illumina Concierge team provides valuable, comprehensive services for customers in need of custom solutions. Illumina Concierge Services provides the experience and confidence needed to accelerate research studies and uncover important biological insights.

## Learn More

To receive additional information, place an order, or inquire about Illumina Concierge Services, 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.

## Ordering Information

Service	Catalog No.
Basic Infinium Content Scoring Service	20015529
Basic Sequencing Design Service	
Comprehensive Infinium Content Scoring Service	20015540
Comprehensive Sequencing Design Service	
Wet Lab Testing and Optimization Service	20015541
Concierge Bioinformatics	Inquire <sup>a</sup>
Custom Proof-of-Concept	Inquire <sup>a</sup>

a. To inquire about the Illumina Concierge or Custom Proof-of-Concept Services, 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.