

Agilent NGS Design Testing Service

Start your projects faster



Accelerate the time from design to implementation of your custom NGS panels with the Agilent NGS Design Testing Service

Our service includes design, wet lab testing on reference samples, and a performance data review. Our team will work with you to create a custom Human SureSelect panel tailored to your exact specifications. Combined, this significantly accelerates the time from design to implementation of your custom NGS panels, helping you achieve faster results.

Design Testing Service process

Agilent design experts will work with you to identify your specific requirements and genomic targets of interest and use these to create a custom Human SureSelect panel tailored to your exact specifications. After its creation, the Agilent NGS Testing Lab will perform wet lab testing using HapMap reference samples. Once the panel performance is reviewed and approved by you, a kit is shipped and you can start your research.

Overview of Design Testing Service

| | Major Activities |
|---------------------|--|
| Design Consultation | Customer consultation – Define design targets, hybridization conditions, and other requirements – Align on expectations |
| Custom Finalization | Custom SureSelect design created by Agilent design expert Design finalization |
| Probe Production | Customer places a DTS order Probes produced and shipped to Agilent NGS Testing Lab |
| Wet Lab Testing | Library preparation of HapMap samples using reagents compatible with downstream enrichment workflow Enrichment of duplicate libraries with the custom panel and one library of process control Sequencing to 100X on Illumina sequencing instruments |
| Data Analysis | Data QC and analysis – Duplication rate – Number of reads – On-target rate – Coverage |
| Result Consultation | – FastQ/BAM file – DTS QC report completion using Alissa Reporter – If not satisfied, Agilent design experts can rebalance your design for additional optimization |

Our team will test your custom design by capturing duplicate libraries prepared with either overnight or 90-min library preparation and target enrichment reagents. Additionally, one library will be captured with the Agilent SureSelect catalogue design as a process control.

Following library sequencing, you will be provided with the FastQ raw sequencing data and can be empirically rebalanced using quality control (QC) metrics and assessed to improve the performance of your design. If you are not satisfied, the Agilent design expert will reoptimize your design and your new panel can be ordered.

Agilent's latest machine learning models in next-generation sequencing (NGS) target enrichment probe design give you increased capture specificity, coverage, and sequencing uniformity, for reduced capture size and higher quality sequencing data. However, in silico design tools make various assumptions about the kinetics of the hybridization, and learning from data generated by your specific capture design is not easily replaced.

Ordering information

| Design Size | Part Number | Discription |
|-------------------------|-------------|---|
| Tier 1 (1 to 499 kb) | G9510A | SureSelect Custom Design Testing,Tier 1 |
| Tier 2 (0.5 to 2.99 Mb) | G9510B | SureSelect Custom Design Testing,Tier 2 |
| Tier 3 (3 to 5.99 Mb) | G9510C | SureSelect Custom Design Testing,Tier 3 |
| Tier 4 (6 to 11.99 Mb) | G9510D | SureSelect Custom Design Testing,Tier 4 |
| Tier 5 (12 to 24 Mb) | G9510E | SureSelect Custom Design Testing,Tier 5 |
| Tier L (> 24 Mb) | G9510F | SureSelect Custom Design Testing,Tier L |

Deliverables

The final deliverables include FastQ raw data and/or BAM files as well as the DTS QC report, which summarizes the key sequencing metrics (for example, number of reads in the BAM file, duplication rate, number of reads in covered regions (on-target rate), and coverage of target bases).

For more information and to request a consultation, visit us at www.agilent.com/DTS

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