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Trusted Answers

Innovation Powered by You

Agilent Community Designs Program for NGS and Microarrays


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Agilent community designs are NGS panels and microarrays created by our customers and deployed successfully in their laboratories. As many of these designs have potential to be used more widely, we are now making them available to you as made-to-order products, manufactured to Agilent quality in our production facility.

Not only will our community designs program save you time designing target enrichment probe libraries and arrays, but it will also give you access to the experience and expertise of our established customer base. These expert-validated designs have been tested in their labs for unique applications and will now be available to all Agilent customers. The designs are ready to order with a click of a button.

NGS community designs

We currently offer NGS community designs for four applications:

- Constitutional disease research
- Infectious disease
- Epigenetics research
- Model organism exome sequencing

The applications and number of designs will continue to grow as we expand our community design offerings.

Microarray community designs

We provide a number of microarray community designs, targeting different applications such as:

- CGH for prenatal research
- Targeted cytogenetic analysis
- CGH for NGS data validation

The number of designs is continuously growing, including new CGH applications and gene expression designs, and will be released for humans as well as other species.

Community Designs are Part of Complete Workflows

Agilent offers complete solutions for both NGS and microarray workflows. We provide sample QC, reagents, instruments, and analysis software together with technical support, providing the ideal means to address all experimental needs.

NGS workflow

We offer complete NGS workflows compatible with Illumina sequencing. These workflows include reagents and instruments, such as the Agilent TapeStation 4150 system, and NGS library preparation using SureSelect reagents. SureSelect community or custom designs can be used for target enrichment, and data analysis and interpretation achieved with Agilent SureCall and the Alissa clinical informatics platform.

Microarray workflow

Agilent provides complete microarray workflows, from sample QC to data analysis and interpretation. The Agilent microarray workflow is streamlined and takes less time to process samples compared with other methods. We provide protocols and reagents to enable processing of a wide variety of samples. Our solution includes labeling kits, hybridization and wash solutions, a microarray hybridization oven, and the Agilent SureScan microarray scanner. Agilent CytoGenomics, Feature Extraction and the Alissa clinical informatics platform can be used to analyze and interpret results.

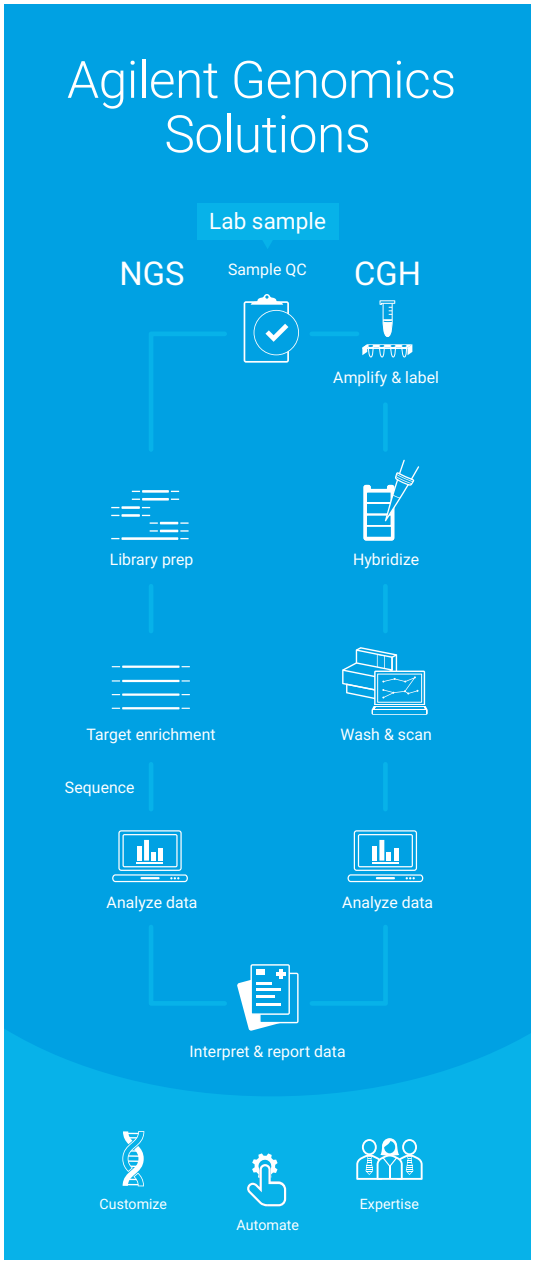

Figure 1. Schematic of NGS and CGH workflows showing similarities.

SurePrint manufacturing excellence

Agilent SurePrint technology was developed for the printing of oligo probe libraries and microarrays to enable advanced and consistent nucleic acid synthesis. Each design is custom made, meaning that you can design your own from start to finish. The flexibility and stability of this process supports the manufacture of catalog and custom designs for any application or experimental approach.

The Agilent oligonucleotide library synthesis (OLS) platform generates highly complex custom and catalog genomic products with superior sequence fidelity. OLS users can create target enrichment bait libraries and microarrays to the highest industry standards.

Long oligonucleotide synthesis

In recent years, we have extended this process to the production of long oligonucleotide libraries used for hybrid capture-based target enrichment with SureSelect products. In conventional synthesis, long oligonucleotide yields can drop off entirely at around 250 nucleotides. By contrast, oligonucleotides manufactured with the SurePrint platform show high fidelity even with lengths close to 300 nucleotides.

SureDesign and eArray

Genomics products tailored for your research needs

Where our community designs do not meet your requirements, you can create your own custom designs using SureDesign or eArray. These web applications allow you to produce target enrichment libraries and microarrays specific to your research needs. The designs can be created starting from a target gene list, genomic coordinates, or FASTA files from previous experiments. You can also collaborate with us to produce designs specific to any organism or even multi-species designs.

High flexibility

You can apply predefined SureDesign content for custom design generation or contribute your own. You can also use the platform to purchase Agilent catalog and custom designs and to collaborate with colleagues or other researchers. For your convenience, orders can be as small as one sample, and increased according to research needs.

NGS target enrichment

Custom Agilent HaloPlex and SureSelect libraries enable efficient targeting of your regions of interest. You can gain the flexibility you need from discovery to follow-up studies, from 1 Kb up to 24 Mb. You can use SureDesign to customize solutions for both DNA and RNA target enrichment.

Customizable microarrays

CGH/CGH+SNP microarrays

CGH microarrays can be easily customized with SureDesign. Customization is streamlined, thanks to our database of over 29 million highly curated probes. Gene expression and miRNA microarrays can be customized in eArray, where we provide a database of predesigned probes and the algorithms to easily design new ones. Order your custom arrays without a minimum order or any additional cost.

SureDesign and eArray online software

You can produce your own NGS or microarray design in minutes with these intuitive applications. For additional details, go to **agilent.com/genomics/suredesign** or **https://earray.chem.agilent.com/earray/**.

Experienced design support

We have supported NGS and microarray applications for over a decade and have been widely cited in scientific literature. In the ten years since SureSelect products were first launched, over 2,000 publications have described research enabled by Agilent NGS technology. CGH arrays have been available for 15 years and have more than 15,000 publications. Our application scientists and research and development team have extensive bioinformatics, bench, and industry experience and can assist you in custom NGS assay or microarray design.

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Note: Community designs are distributed but not validated by Agilent.

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