# Your Designs to 'Duo' More

## Agilent Avida target enrichment—custom made for your target regions

### Experience the power of DNA and methylation in one target enrichment workflow

The Agilent Avida Duo workflow enables both DNA and methylation profiling of a single sample, with no sample splitting required. The novel, high performance workflow offers multiomics capabilities and outstanding fidelity, turnaround time, and ease of use. Unleash the full potential of every sample with the Agilent Avida workflow–designed to "duo" more.

### Investigating liquid biopsy samples requires deep sequencing for meaningful results—target only what matters

To detect genetic changes at a rare variant allele frequency, deep sequencing is required. Targeted enrichment and custom design of your capture library enable you to focus sequencing on specific regions, minimizing extraneous coverage.

### Avida custom probe libraries allow you to specifically target your regions of interest

Avida custom probe libraries support efficient sequencing by focusing only on target regions of interest, maximizing use of your sequencing budget. Custom probes can be designed for the DNA workflow, targeting genetic differences; the methyl workflow, investigating epigenetic regulation; or as complementary DNA and methyl probe sets for use in the unique Avida Duo workflow.

Custom probe libraries can also be designed to complement an Avida catalog design in the Avida Duo workflow.

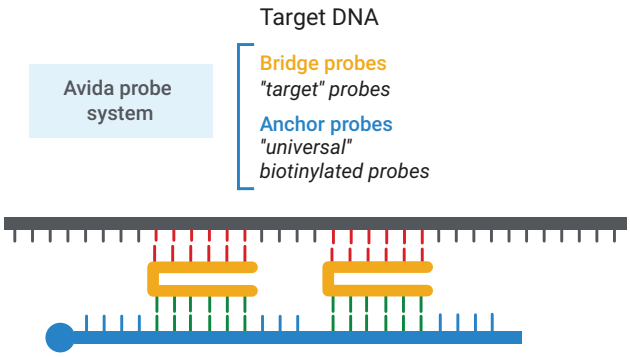


**Figure 1.** Unique Agilent Avida 3D probe system.

### Unique features of the Avida probe system—maximizing performance in liquid biopsy workflows

The innovative Avida capture approach uses a three-dimensional umbrella probe system, combining two types of probes (Figure 1).

- Short Bridge probes to specifically target your regions of interest
- Universal biotinylated Anchor probes to enrich your targeted regions in an NGS workflow.

This design addresses some of the specific challenges encountered when working on liquid biopsy samples.

- Short, target-specific probes for rapid one-hour hybridization and quick turnaround time in your oncology workflow
- Anchor probes within the 3D probe system for highly specific enrichment of your targets
- DNA and methylation probes designed to hybridize with native gDNA for preconversion capture in the methyl workflow—ensuring no loss in target complexity
- A user-friendly, single-tube system within the workflow

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## Avida custom panels are backed by decades of Agilent experience in targeted capture and flexible design options

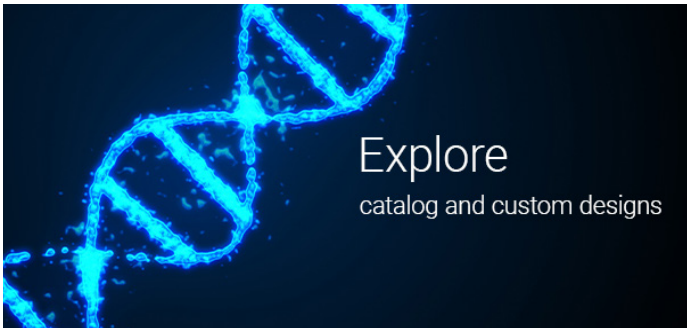
### 1: Capitalize on your local Agilent design experts

Leverage our global team of design experts to consult with you on your exact requirements and provide your new Avida DNA or Methyl design. Contact your local Agilent sales team for assistance.

### 2: Use Agilent SureDesign

Agilent SureDesign is a free platform allowing you to create an Avida design in minutes. It has an intuitive design wizard that creates custom panels specific to your research needs. Register and find out more at:
earray.chem.agilent.com/suredesign/

## SureDesign




Visit SureDesign and follow the Avida prompts and design wizard to create your own Avida designs.

## Ensure integrity of your methylation experiments by designing for hybridization to native gDNA

Unlike other methyl capture platforms, Avida probes capture DNA prior to conversion and before any DNA modifications. No alteration of the sample in the pre-capture phase allows for greater flexibility in probe placement and helps maintain sample integrity.

Experience the power of DNA and methylation in one target enrichment workflow with the Agilent Avida workflow and custom panels, designed to 'duo' more. Learn more at
www.agilent.com/avida-duo

## Choose the design strategy that best meets your experimental needs

We know that during the design of each unique experiment, it's important to understand the experimental question and have a design strategy that best addresses your needs.

We offer two different custom design strategies.

- All: To cover all regions of interest, ensuring all important variants are covered, irrespective of the effect on capture statistics
- High-quality: To maximize sequencing budget, only designing for targets/regions that lack repeats and are predicted to capture with high efficiency

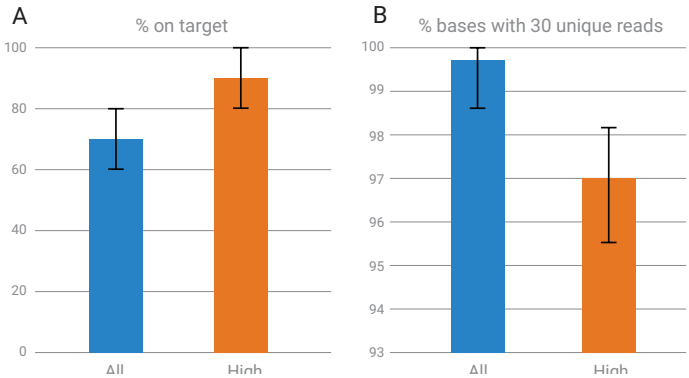



**Figure 2.** Shows the differences in performance for the two designs. (A) Agilent Avida high-quality probes (orange; High) have, on average, a 22% higher on-target percentage than the Agilent Avida all probes (blue; All), as measured by Percent Selected Bases. Percent Selected Bases, computed using Picard HsMetrics, represents the percentage of all aligned bases that are on or near target. Higher values indicate a better on-target percentage. (B) On average, Agilent Avida all probes (blue; All) achieve 30X coverage for 3% more bases after single-strand molecular barcode (MBC) deduplication compared to Agilent Avida high-quality probes (orange; High).

The Agilent Avida custom probe workflow leverages its unique 3D probe structure, superior design algorithms, and design flexibility—making Avida custom panels the premier solution to meet your experimental needs for investigating DNA and epigenetic changes in liquid biopsy samples.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