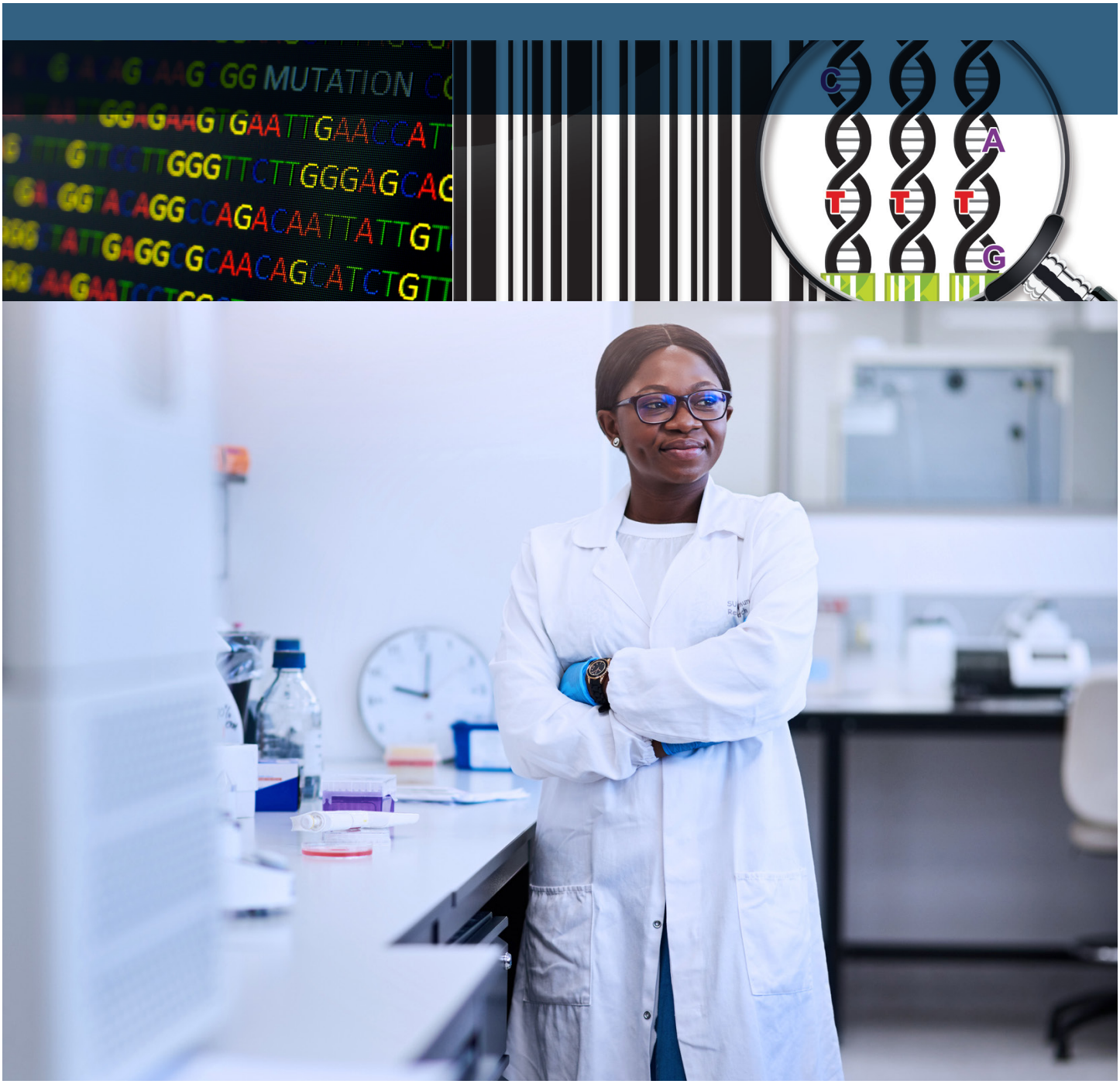
Agilent
Trusted Answers

HaloPlex^{HS}
NGS Target Enrichment System

Get to know your DNA. Every single fragment.



How Does Molecular Barcoding Work?

HaloPlex^{HS} is a high sensitivity targeted sequencing method that incorporates >10^6 unique molecular barcodes in the DNA library to allow for the identification of duplicate reads. This technology significantly improves base calling accuracy even at low allelic frequencies compared to conventional NGS methods.

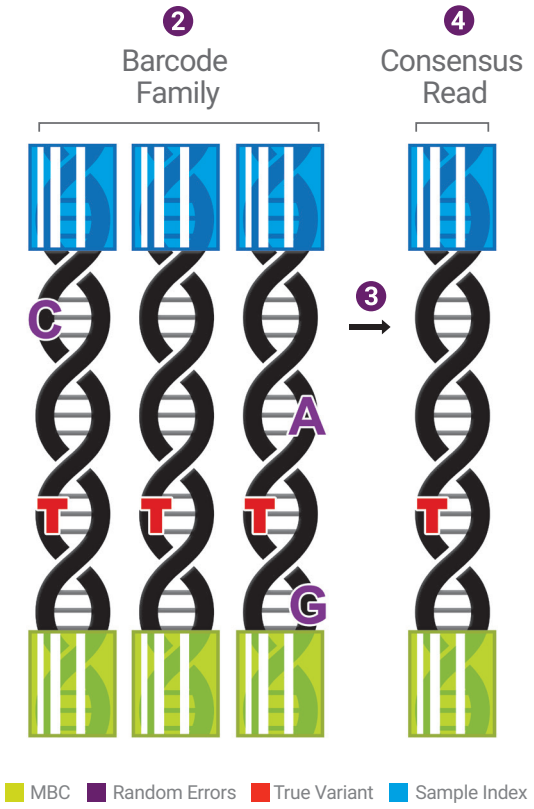
Basic molecular barcode (MBC) analysis

Step 1 Align reads

Step 2 Group read pairs to designed probes based on read start-stop position

Step 3 Group reads with an identical molecular barcode sequence for each probe

Step 4 Consolidate read information to one read per molecule (remove PCR duplicates)



Get to Know Your DNA. Every Single Fragment.

What is HaloPlex^{HS}?

HaloPlex^{HS} uniquely tags each DNA library fragment with molecular barcodes, allowing the tracking of molecules through the library preparation process and de-duplication of reads.

What differentiates HaloPlex^{HS} from other amplicon-based target enrichment methods?

The incorporation of molecular barcodes by HaloPlex^{HS} greatly enhances the sensitivity for detection of low allele frequency variants present in heterogeneous cell populations, such as those found in cancer samples. In addition, superior accuracy is achieved by the targeting of both DNA strands which allows for differentiation of true variants from PCR or formalin-fixation artifacts.

How can I create a gene panel?

Easily create gene panels of interest through SureDesign. You can also start customization from our menu of catalog or made-to-order panels.

Which sequencing platforms are compatible with HaloPlex^{HS}?

HaloPlex^{HS} libraries can be sequenced on leading benchtop and high-throughput sequencing platforms.

HaloPlex^{HS}: High Sensitivity Detection of Rare Variants Using Molecular Barcodes

Unparalleled Sensitivity

- Uniquely tag DNA fragments with more than a million 10-nt molecular barcodes
- Confidently detect mutations present at below 1% allele frequency in genetically heterogeneous samples

Superior Accuracy

- Differentiation of true variants from PCR or formalin fixation artifacts by targeting both DNA strands
- Multiple amplicon coverage per base for deep detection of key variants with high on-target specificity

Accelerated Solution

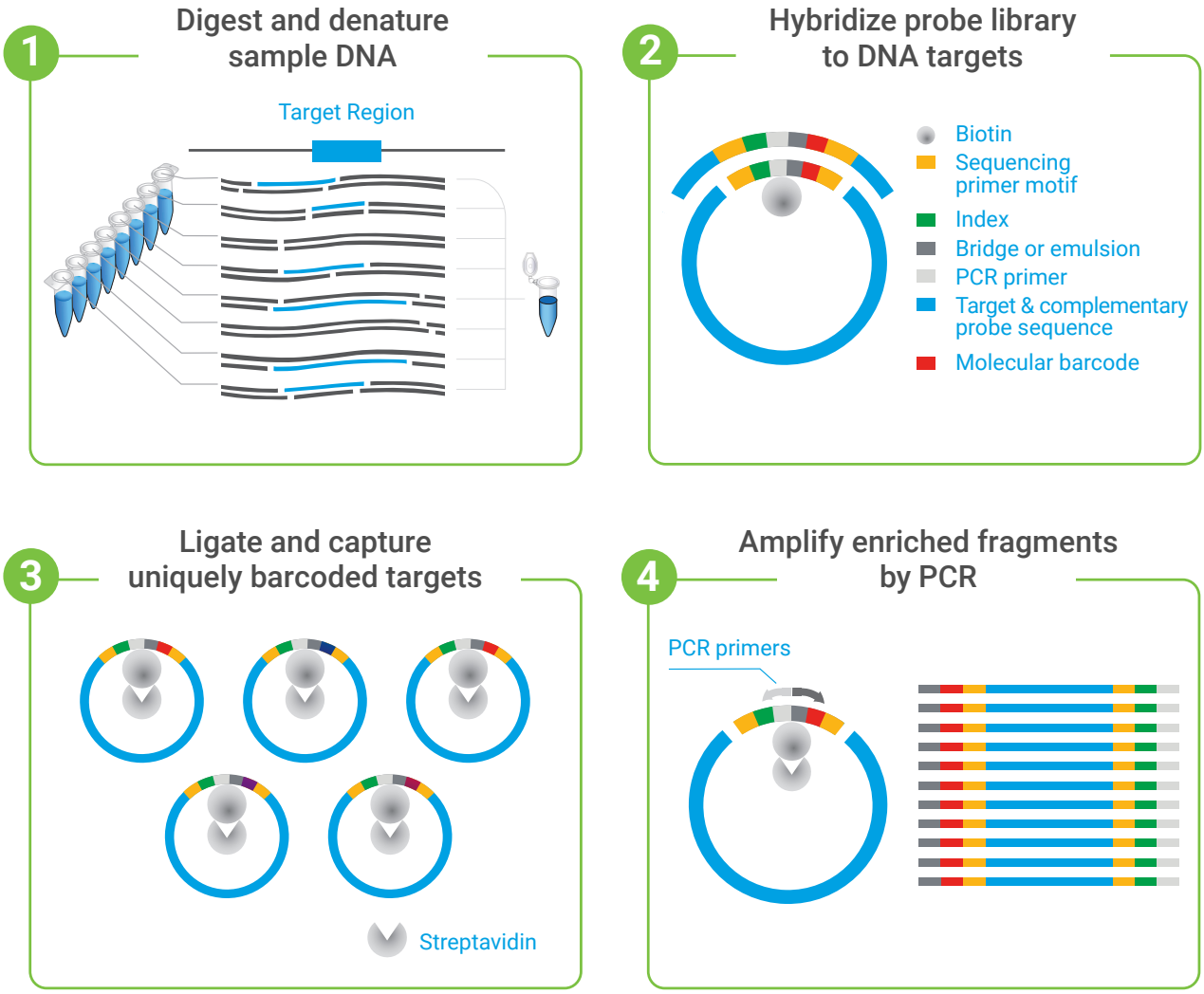
- Complete target enrichment in less than 6 hours from only 50 ng of gDNA
- From raw data to categorized mutations in 3-steps using SureCall data analysis software

Did You Know?

Simplify data analysis by using SureCall for alignment, de-duplication of reads and variant calling!

Complete Library Prep-Free Enrichment in <6 hours

HaloPlex^{HS} enables fast, simple, and efficient analysis of genomic regions of interest for a large number of samples, covering thousands of targets per sample. It uses single-tube target amplification, removing the need for library preparation to reduce total sample processing time. Incorporation of molecular barcodes during probe-target hybridization and on-bead PCR further streamline the workflow.



Product Description	Part Number
HaloPlexHS 1-500 kb, ILMFST, 96	G9931B
HaloPlexHS 1-500 kb, ILMFST, 48	G9931C
HaloPlexHS 501 kb-2.5 Mb, ILM, 96	G9941B
HaloPlexHS 501 kb-2.5 Mb, ILM, 48	G9941C
HaloPlexHS 2.6 Mb-5 Mb, ILM, 96	G9951B
HaloPlexHS 2.6 Mb-5 Mb, ILM, 48	G9951C

Did You Know?

The HaloPlex target enrichment system uses single-tube target amplification and removes the need for library preparation, reducing total sample processing time to only six hours, without the need for dedicated instrumentation. HaloPlex also expands your options by including 96 available indexes to equip you with the flexibility needed to efficiently run your experiments.

Learn more:
www.agilent.com/genomics/HaloPlexHS

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