Секвенирование нового поколения

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

afr@nt-rt.ru || https://agilent.nt-rt.ru/

SureSelect Cancer All-In-One Assays

SureSelect Cancer All-In-One (AIO) assays are a revolutionary new type of NGS assay. They enable you to detect single nucleotide variants (SNVs), indels, copy number variants (CNVs), and translocations in a single assay. In short, a single assay can now deliver molecular insights from your precious cancer samples in the genes that matter to you, quickly and cost-effectively.

These assays include either catalog or custom panels (created using the SureDesign tool), the SureSelect XT HS or SureSelect XT Low Input Reagent kit for NGS library preparation, and complementary SureCall software for data analysis. The customization option allows you to build high performance NGS assay with differentiating content for your unique research need. SureSelect Cancer AIO assays provide a simple workflow with high-sensitivity genomic variant detection as part of a flexible NGS workflow that can meet the needs of many laboratories (Figure 1).

Simple workflow

The SureSelect Cancer AIO workflow offers several advantages that enable you to:

- Consolidate multimodal assays to get more answers from a single DNA assay.
- Achieve sequencing-ready libraries from DNA in under 36 hours.
- Get an integrated solution from panel design to data analysis.
- Simplify your experience with catalog cancer NGS assays.

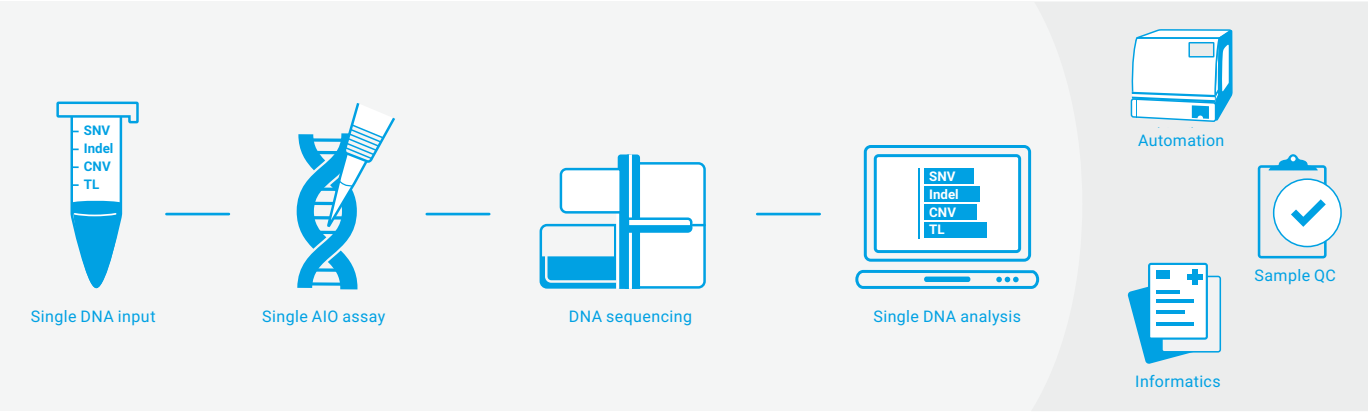


Figure 1. The SureSelect Cancer All-In-One solution consolidates the detection of all variant types into one workflow with single DNA input and single data analysis, using Agilent SureCall software or the Alissa clinical informatics platform for alignment and variant calling (coming soon). A walkaway automation option for library preparation enabled by Magnis NGS prep system, and variant assessment on the Alissa interpretation module is available.

SureSelect Cancer All-In-One Lung Assay

The SureSelect Cancer All-In-One lung assay surveys 20 genes clinically relevant to non-small cell lung cancer (NSCLC) (Table 1). It includes all somatic variants associated with NSCLC in the guidelines of the National Comprehensive Cancer Network (NCCN), the College of American Pathologists (CAP), and the European Society for Medical Oncology (ESMO).

Targeted variant types: • SNV/indel ■ CNV ♦ Translocation

Table 1. The targeted genes and associated variant types of the SureSelect Cancer All-In-One lung assay.

AKT1 •	DDR2 •	FGFR3 ♦	NRAS •	RET ♦
ALK • ♦	EGFR •	KRAS •	NTRK1 ♦	ROS1 ♦
BRAF •	ERBB2 • ■	MEK1 •	PIK3CA •	STK11 •
CD274 ■	FGFR1 ■	MET • ■	PTEN • ■	TP53 •

SureSelect Cancer All-In-One Solid Tumor Assay

The SureSelect Cancer All-In-One solid tumor assay profiles 98 genes relevant to multiple common solid tumor types, including lung, breast, ovarian, colorectal, prostate, sarcoma, and skin (Table 2).

Targeted variant types: • SNV/indel ■ CNV ♦ Translocation

Table 2. The targeted genes and associated variant types of the SureSelect Cancer All-In-One solid tumor assay.

ABL1 •	CDKN2A •	FGFR4 •	MLH1 •	RAF1 • ♦
AKT1 •	CDKN2B •	FOXL2 •	MSH2 •	RB1 •
ALK • ♦	CIC ♦	GNA11 •	MSH6 •	RET • ♦
APC •	CSF1R •	GNAQ •	MTOR •	RIT1 •
AR • ■	CTNNB1 •	GNAS •	MYC • ■	ROS1 • ♦
ARAF •	DDR2 •	HNF1A •	MYCN • ■	SMAD4 •
ARID1A •	DNMT3A •	HRAS •	MYD88 •	SMARCB1 •
ATM •	EGFR • ♦	IDH1 •	NF1 •	SMO •
BCL2 •	ERBB2 • ■	IDH2 •	NF2 •	SRC •
BCR •	ERBB3 •	JAK2 •	NFE2L2 •	STK11 •
BRAF • ♦	ERBB4 •	JAK3 •	NOTCH1 •	TERT •
BRCA1 •	ESR1 •	KDR •	NRAS •	TMPRSS2 • ♦
BRCA2 •	ETV1 •	KIT •	NTRK1 • ♦	TP53 •
CCND1 ■	ETV4 •	KMT2A •	PDGFRA •	TSC1 •
CCND2 •	ETV6 •	KRAS • ■	PDGFRB •	TSC2 •
CCNE1 •	EZH2 •	MAP2K1 •	PIK3CA • ■	VEGFA •
CD274 • ■	FBXW7 •	MAP2K2 •	PIK3R1 •	VHL •
CDH1 •	FGFR1 • ♦	MAP2K4 •	PTCH1 •	WT1 •
CDK4 • ■	FGFR2 • ♦	MDM2 • ■	PTEN • ■	
CDK6 • ■	FGFR3 • ♦	MET • ■	PTPN11 •	

Why choose DNA-based translocation detection over RNA-based fusion detection?

While RNA-based fusion detection can offer a range of benefits, key challenges remain, including limited availability of good quality RNA from compromised samples, and the complexity of having to run both DNA and RNA workflows and data analyses. Therefore, when targeting a small number of translocation genes, DNA-based translocation detection is a compelling option that enables comprehensive genomic profiling with the simplicity of single DNA assay. Importantly, adding an RNA-based fusion assay into the workflow can increase the cost significantly.

High-Sensitivity Detection

A key advantage of the SureSelect Cancer All-In-One assays is the level of detection that is possible across different types of cancer variants (Table 3, Figures 2 and 3).

SureSelect Cancer AIO enables you to:

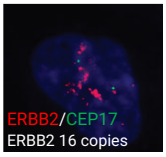
- Detect SNVs and indels at allele frequency as low as 1% with 8000x or more sequencing depth.
- Identify gene amplifications and deletions in samples with low tumor content.
- Target translocation driver genes for high-sensitivity translocation detection from DNA.

			HD799	HD803
Gene	Variant	Expected VAF, %	Detected VAF, %	Detected VAF, %
BRAF	V600E	10.5	12.9	11.4
EGFR	L858R	3.0	6.7	3.4
EGFR	ΔE746-A750	2.0	1.5	1.0
EGFR	T790M	1.0	1.3	1.3
EGFR	G719S	24.5	26.0	23.5
KRAS	G13D	15.0	13.9	16.5
KRAS	G12D	6.0	4.3	5.2
KRAS	Q61K	12.5	11.0	12.8
PIK3CA	H1047R	17.5	22.7	19.2
PIK3CA	E545K	9.0	9.3	9.2

Table 3. The SureSelect Cancer All-In-One lung assay detects actionable mutations down to 1% allele frequency in the Horizon Discovery reference standard samples HD799 and HD803, which represents DNA quality levels moderately and severely compromised by formalin fixation, respectively.

A

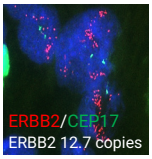
HCC2218 cell line
ERBB2 16 copies



Expected Tumor Fraction	Calculated Overall Copy Number	Detected Clonal Copy Number
100%	16	16
20%	4.8	16
10%	3.4	12
5%	2.7	14
2%	2.28	ND

B

FFPE sample
ERBB2 12.7 copies

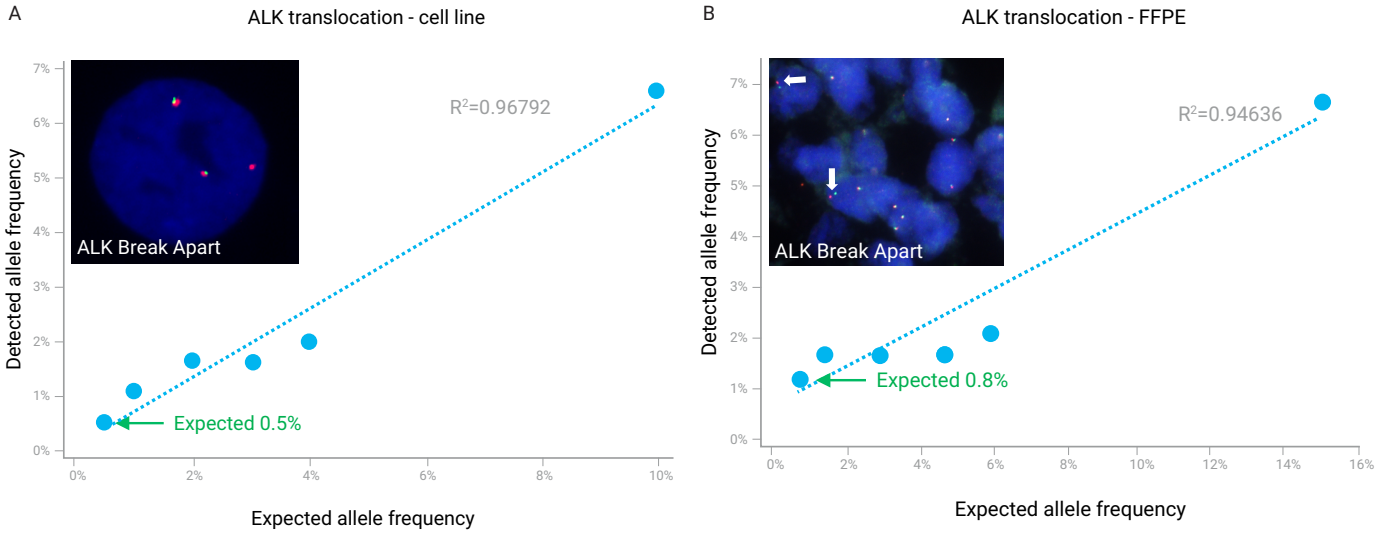


Expected Tumor Fraction	Calculated Overall Copy Number	Detected Clonal Copy Number
100%	12.7	11
20%	4.1	11
10%	3.1	11
5%	2.5	11
2%	2.2	ND

C

Variant	Positive agreement	Negative agreement	Overall agreement
ERBB2 amplification	97.5% (39/40)	97.6% (40/41)	97.5% (79/81)

Figure 2. High-sensitivity CNV detection by the SureSelect Cancer All-In-One lung assay. DNA from (A) the HCC2218 cell line and (B) a FFPE sample harboring ERBB2 amplification, respectively, was diluted to represent varying tumor fractions. The expected ERBB2 copy number status was characterized using Agilent SureFISH probes for CEP17 (catalog number G110993-85601) and 17q12, ERBB2 (catalog number G100046R-8) were used. Expected tumor fractions based on the dilution, calculated overall copy number and clonal copy number detected by the AIO lung assay are shown in the tables. (C) The concordance between FISH and the assay for ERBB2 CNV in a cohort of FFPE samples positive or negative for ERBB2 CNV by FISH is shown. 50 ng of input DNA and 9 million reads by Illumina sequencing were used.



C

Variant	Positive agreement	Negative agreement	Overall agreement
ALK translocation	90.7% (39/43)	100% (54/54)	95.9% (93/97)

Figure 3. High-sensitivity translocation detection by the SureSelect Cancer All-In-One Lung assay. DNA from (A) the H2228 cell line and (B) an FFPE sample harboring ALK-EML4 translocation was diluted to represent varying variant allele frequencies (VAFs). The ALK translocations were characterized using ALK IQFISH Break-Apart Probes from Dako (catalog number G11800-2 and GG221600-8). The expected and detected VAFs are plotted, with ALK Break-apart FISH images shown in respective plot; (C) The concordance between FISH and the AIO Lung Assay for ALK translocation in a cohort of FFPE samples positive or negative for ALK Break-apart by FISH. 50ng of input DNA and 9 million reads by Illumina sequencing were used.

Flexible solution

SureSelect Cancer AIO assays provide you with many useful options to adapt to your research needs (Figure 4).

- Easy customization (using the SureDesign tool) with optimized probes for genes targeting SNVs, indels, CNVs, and translocations.
- Automation options and kit sizes suitable for small-scale and high-throughput projects.

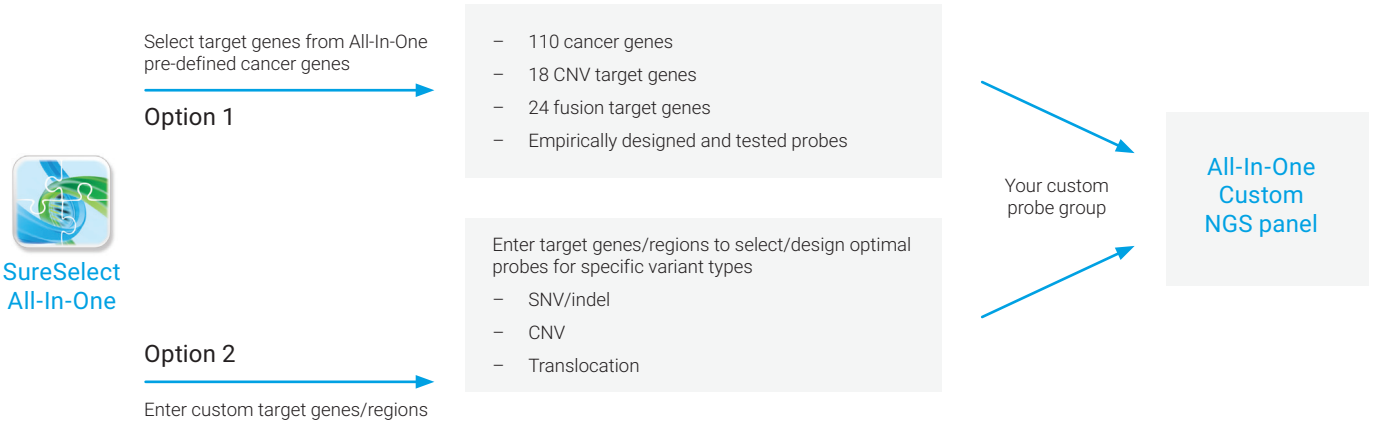


Figure 4. Illustration of the the All-In-One custom design workflow in SureDesign. Following the wizard-guided SureSelect All-In-One design workflow in SureDesign, you can either select probes for genes in the All-In-One pre-defined cancer gene set, or enter custom target genes/regions under the variant types of SNV/indel, CNV and translocation for optimal probe design. The custom probe groups generated with the two options can be used alone or combined to create your final All-In-One custom design.

Note: SureCall software currently does not support CNV and translocation detection in the same gene.

Seamless Comprehensive NGS Workflow

1. Sample QC

TapeStation systems

Agilent TapeStation systems are automated electrophoresis solutions for quality control of a wide range of DNA and RNA samples. Proven ScreenTape technology guarantees superior ease-of-use and highly accurate and precise analytical evaluation.

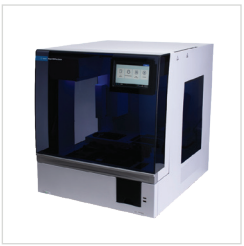
2. SureSelect Cancer AIO assays

Agilent AIO assays allow detection of all cancer relevant variants in a single SureSelect assay. (See pages 1-4.)

3. Automation

Magnis NGS prep system

The Magnis NGS prep system is a fully automated solution that requires minimal staff and NGS expertise to run SureSelect All-In-One assays. The onboard wizard helps the user with reagent placement through automated barcode checking and allows assays to be set-up in under five minutes. With the press of a button, the user can walk away.



Bravo NGS (A) and NGS Workstation (B)

Agilent's NGS automation solutions help analysts increase sample preparation throughput easily, without impacting data quality. Available with pre-developed method protocols, the intuitive software requires no programming expertise to run.

4. Bioinformatics

SureCall desktop software

Designed for NGS data analysis, SureCall SureCall provides data analysis support for SureSelect Cancer AIO catalog and custom assays, generating variant calls of SNVs, indels, CNVs and translocations from raw data.

Alissa clinical informatics platform

Seamlessly flow from raw data alignment, to annotations, to mutation categorization, to shorter time to results. Scalable software-as-a-service modules deliver data alignment and calling, and variant interpretation and reporting efficiently and securely.*

** Alignment and variant calling support for SureSelect Cancer AIO by Alissa clinical informatics platform is coming soon. Variant interpretation and reporting is supported now.*

Ordering information

Catalog assays

Description	Part Number
SureSelect Cancer AIO lung, 16 rxn, index 1-16	G9704R
SureSelect Cancer AIO lung, 16 rxn, index 17-32	G9705R
SureSelect Cancer AIO lung, 96 rxn, index 1-32	G9706R
SureSelect Cancer AIO lung, 96 rxn, index 1-96	G9707R
SureSelect Cancer AIO lung, 96 rxn, index 97-192	G9708R
SureSelect Cancer AIO lung, 96 rxn, index 1-96, Automation	G9507R
SureSelect Cancer AIO lung, 96 rxn, index 97-192, Automation	G9507R
SureSelect Cancer AIO solid tumor, 16 rxn, index 1-16	G9704S
SureSelect Cancer AIO solid tumor, 16 rxn, index 17-32	G9705S
SureSelect Cancer AIO solid tumor, 96 rxn, index 1-32	G9706S
SureSelect Cancer AIO solid tumor, 96 rxn, index 1-96	G9707S
SureSelect Cancer AIO solid tumor, 96 rxn, index 97-192	G9708S
SureSelect Cancer AIO solid tumor, 96 rxn, index 1-96, Automation	G9507S
SureSelect Cancer AIO solid tumor, 96 rxn, index 97-192, Automation	G9508S

Custom assays

Description	Panel Size	Bundled PN
SureSelect Cancer AIO, 16 rxn, index 1-16	1-499 kb	G9704A
	0.5-2.9 Mb	G9704B
	3-5.9 Mb	G9704C
	6-11.9 Mb	G9704D
	12-24 Mb	G9704E
SureSelect Cancer AIO, 16 rxn, index 17-32	1-499 kb	G9705A
	0.5-2.9 Mb	G9705B
	3-5.9 Mb	G9705C
	6-11.9 Mb	G9705D
	12-24 Mb	G9705E
SureSelect Cancer AIO, 96 rxn, index 1-32	1-499 kb	G9706A
	0.5-2.9 Mb	G9706B
	3-5.9 Mb	G9706C
	6-11.9 Mb	G9706D
	12-24 Mb	G9706E
SureSelect Cancer AIO, 96 rxn, index 1-96	1-499 kb	G9707A
	0.5-2.9 Mb	G9707B
	3-5.9 Mb	G9707C
	6-11.9 Mb	G9707D
	12-24 Mb	G9707E
SureSelect Cancer AIO, 96 rxn, index 97-192	1-499 kb	G9708A
	0.5-2.9 Mb	G9708B
	3-5.9 Mb	G9708C
	6-11.9 Mb	G9708D
	12-24 Mb	G9708E

Custom design ID generated by SureDesign must be provided when placing an order.
SureSelect AIO comes with complimentary access to SureCall.

DNA-Seq Reagents Kits and Library Preparation Kits

SureSelect Ion Proton RUO

Agilent's SureSelect Ion Proton provides fast and accurate genomic target enrichment. It is optimized for the Ion Proton NGS system. Analysis efficiency is enhanced through more accurate targeting and shorter time to results. It allows Ion Proton customers to access the most proven target enrichment technology.

For Research Use Only. Not for use in diagnostic procedures.

Part Number	Description
G9605A	SureSelect TE Reagent kit, PTN
G9605B	SureSelect TE Reagent kit, PTN

Features

- Market-leading target enrichment capabilities, optimized for the Ion Proton System.
- The SureSelect Target Enrichment solution for Ion Proton enables researchers access proven, high quality target enrichment technology.
- Delivering superior analysis power and faster time to results for more efficient applications.
- Use with SureSelect exomes, or catalog panels or easily create custom panels with the SureDesign software application

Data Sheet

Agilent
Trusted Answers

SureSelect XT HS2 DNA Reagent Kit

Because flexibility and performance matter

Key Features:

- Generate high-quality libraries with as little as 10 ng of DNA input from intact or highly degraded FFPE samples.
- Choose between mechanical or enzymatic shearing workflows based on your needs.
- Minimize index hopping and maximize throughput with 384 unique dual sample indexing (UDI).
- Use duplex molecular barcodes (duplex MBC) to better suppress false positives and more accurately detect low variant allele frequency (VAF).
- Order everything you need for next generation sequencing (NGS) library preparation and target enrichment, including beads, from one vendor.

Overview

The Agilent SureSelect XT HS2 DNA reagent kit is a state-of-the-art NGS library preparation and target enrichment solution. It provides a streamlined and flexible workflow, excellent performance, and comprehensive features that can be used in various NGS applications (Figure 1). The kit offers a complete solution designed to satisfy your NGS library preparation needs. The workflow is optimized for FFPE samples which are essential for cancer research. Up to 384 unique dual sample indexing enables high-throughput labs to process and sequence hundreds of samples simultaneously. The ability to generate consensus calls using MBC information from both strands (duplex MBC) significantly improves the accuracy of low VAF detection which is critical in liquid biopsy applications. Agilent also offers a one-stop shop experience, including beads, quality control, automation, and analysis solutions.

Sample	Library Preparation & Target Enrichment
10 - 200 ng DNA input	Mechanical/enzymatic shearing
	384 unique dual sample indexing
FFPE and high-quality samples	Single/duplex MBC
	1-day/2-day workflow
	Beads included option
	Bravo automation

Figure 1. The SureSelect XT HS2 DNA reagent kit offers one streamlined workflow with high flexibility and comprehensive features to satisfy your NGS library preparation needs.

One solution for your NGS library preparation needs

The highly flexible workflow and comprehensive features of the SureSelect XT HS2 DNA reagent kit enable users to choose the workflow that best satisfies their needs. The kit is optimized for a wide range of DNA input (10–200 ng), various sample types (intact or FFPE samples), different shearing methods (mechanical vs. enzymatic) and sequencing chemistries (2 x 100 bp or 2 x 150 bp). The users can take advantage of the 90-minute fast hybridization to generate enriched libraries in a single day. They also have the flexibility to split the workflow into two days. Up to 384 unique dual sample indexing enables users to multiplex hundreds of samples without worrying about index hopping. Duplex MBC enables users to filter out artifacts generated by PCR amplification during the library preparation process. It significantly reduces the number of false positive calls and improves the accuracy of low VAF detection. It's worth noting that both 384 UDIs and duplex MBC can be utilized simultaneously, an improvement over the existing XT Low Input products.

The kit is configured with two options—with and without the Ampure and Streptavidin beads. Users don't need to go to a third party vendor and can purchase everything they need for NGS library preparation, from upfront quality control to downstream analysis, from Agilent. The Agilent SureSelect XT HS2 DNA starter kit (G9982A) simplifies your ordering experience even further. You get everything you need for NGS library preparation, including the reagent kit, enzymatic fragmentation module, and the beads, by ordering a single part number. The SureSelect XT HS2 DNA reagent kit is also compatible with Agilent's Bravo automation system, and will be enabled on the fully automated Magnis automation system in the near future.

Superior performance of the SureSelect XT HS2 DNA reagent kit

Conversion efficiency is a key metric to evaluate library preparation performance. It measures the percentage of input DNA being converted into a fully adaptor ligated library. Better conversion efficiency suggests that more DNA molecules are sequenceable in the final library which is measured by library complexity. Higher library complexity indicates that there is less chance to sequence the same DNA molecules over and over again. Therefore, it is more likely to get higher base coverage when sequencing depth is increased. This is critical for low VAF detection in tumor and liquid biopsy samples. The SureSelect XT HS2 DNA reagent kit shows better conversion efficiency compared to the competition using both fresh frozen and FFPE samples (Figure 2). For basic sequencing metrics, duplication rate, uniformity and 100X base coverage are comparable among the three kits. However, the SureSelect XT HS2 DNA reagent kit shows significantly higher on target %, 300X base coverage and library complexity compared to the competitors (Figures 3 and 4). In particular, with 10 ng of DNA input and 1,000X raw sequencing, the 300X base coverage of the SureSelect XT HS2 DNA reagent kit (53.3%) is dramatically higher than the other two kits (9.4% and 6.2% respectively).

Duplex MBC significantly improves detection accuracy of low VAF

Short and random DNA nucleotides called molecular barcodes are incorporated into the NGS library during the adaptor ligation step. These unique sequences can be used as identifiers for individual DNA molecules to filter out false positive calls and provide a more accurate variant calling result. This feature is essential for detecting variants with low allele frequencies in heterogeneous samples, such as tumor biopsy or ctDNA samples.

For the SureSelect XT HS2 DNA reagent kit, you can generate consensus calls using MBC information from both strands (duplex MBC), single strand (single MBC) or discard MBC information (no MBC), based on the application. While both duplex and single MBC improve the accuracy of low VAF detection compared to no MBC, duplex MBC enables the most effective error correction. The number of false positive calls of low VAF (=<4% in this analysis) for duplex MBC were reduced significantly by 74% and 93% compared to single MBC and no MBC, respectively (Figure 5).

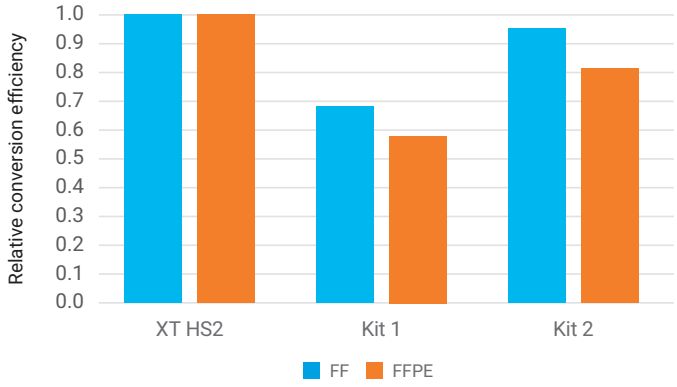


Figure 2. Improved conversion efficiency for both fresh frozen and FFPE samples. 10 ng of DNA from lung tumor fresh frozen and normal kidney FFPE (ddCq=1.8, DIN=3.2) samples served as the input for library preparation using the SureSelect XT HS2 DNA reagent kit and two competing kits (Kit 1 and Kit 2). For Kit 1 and Kit 2, libraries were prepared using library preparation kit from vendor K and different adaptors from vendor ID. Sample quality was determined by the Agilent TapeStation (DIN) and Agilent NGS FFPE QC kit (ddCq value). Limited PCR cycles were performed to ensure linear amplification. Relative conversion efficiency was calculated using XT HS2 as reference.

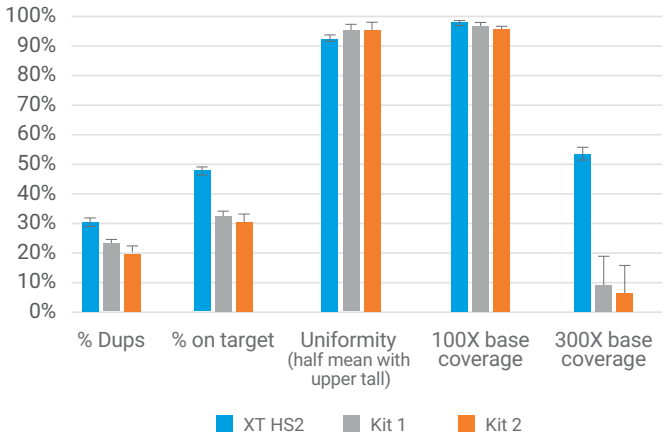


Figure 3. Superior 300X base coverage with 10 ng DNA input, compared to competitors' kits. 10 ng of HapMap sample (NA12878) was used as input. For XT HS2, library construction and target enrichment were performed using the SureSelect XT HS2 DNA reagent kit and a 25 kb custom probe from Agilent. For Kit 1 and Kit 2, libraries were prepared using library preparation kit from vendor K and different adaptors from vendor ID. Target enrichment was performed using a 25 kb custom probe from vendor ID for both Kit 1 and Kit 2. Libraries were sequenced (2 x 100 bp) on the Illumina MiSeq system. Reads were mapped to hg19, normalized to 1,000X raw sequencing depth.

Figure 4. Significantly higher library complexity compared to the competitors' kits. 10 ng of HapMap sample (NA12878) was used as input. For XT HS2, library construction and target enrichment were performed using the SureSelect XT HS2 DNA reagent kit and a 25 kb custom probe from Agilent. For Kit 1 and Kit 2, libraries were prepared using library preparation kit from vendor K and different adaptors from vendor ID. Target enrichment was performed using a 25 kb custom probe from vendor ID for both Kit 1 and Kit 2. Libraries were sequenced (2 x 100 bp) on the Illumina MiSeq system. Reads were mapped to hg19, normalized to 1,000X raw sequencing depth and HS library size was then determined.

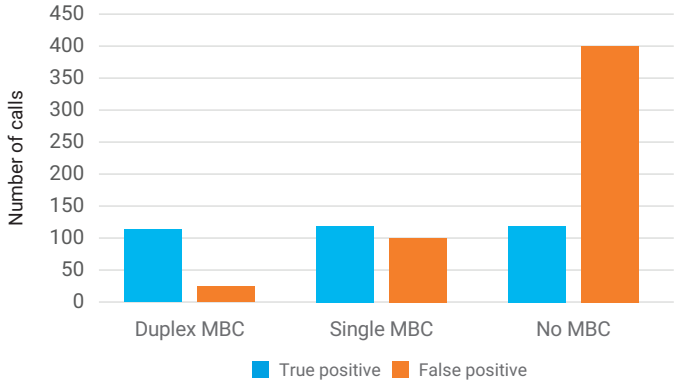


Figure 5. Duplex MBC significantly lower false positive calls for low VAF. 20 ng of HapMap sample mixture (98% NA12878 and 2% NA24385) was used as input. Library construction and target enrichment were performed using the SureSelect XT HS2 DNA reagent kit and Agilent SureSelect Cancer All-In-One Lung assay. Libraries were sequenced (2 x 100 bp) on the Illumina HiSeq 4000 system. Reads were mapped to hg19, normalized to 10,000X raw sequencing depth. The Trimmer and LocatIt tools in the Agilent Genomics Toolkit (AGeNT) were used to process MBCs and generate consensus reads for each MBC family. Duplex MBC uses MBC sequences from both strands to generate consensus variant calls, while Single MBC creates consensus reads without taking the strand information into account. Variants with allele frequencies equal or lower than 4% were selected for this analysis.

Ordering information

Product	Part Number
SureSelect XT HS2 DNA reagent kit with index primer pairs 1–16, 16 reactions	G9981A
SureSelect XT HS2 DNA starter kit with index primer pairs 1–16, 16 reactions	G9982A
SureSelect XT HS2 DNA reagent kit with index primer pairs 1–96, 96 reactions	G9983A
SureSelect XT HS2 DNA reagent kit with index primer pairs 97–192, 96 reactions	G9983B
SureSelect XT HS2 DNA reagent kit with index primer pairs 193–288, 96 reactions	G9983C
SureSelect XT HS2 DNA reagent kit with index primer pairs 289–384, 96 reactions	G9983D
SureSelect XT HS2 DNA reagent kit with AMPure XP/Streptavidin beads and index primer pairs 1–96, 96 reactions	G9984A
SureSelect XT HS2 DNA reagent kit with AMPure XP/Streptavidin beads and index primer pairs 97–192, 96 reactions	G9984B
SureSelect XT HS2 DNA reagent kit with AMPure XP/Streptavidin beads and index primer pairs 193–288, 96 reactions	G9984C
SureSelect XT HS2 DNA reagent kit with AMPure XP/Streptavidin beads and index primer pairs 289–384, 96 reactions	G9984D
SureSelect XT HS2 DNA library preparation kit with index primer pairs 1–96, 96 reactions	G9985A
SureSelect XT HS2 DNA library preparation kit with index primer pairs 97–192, 96 reactions	G9985B
SureSelect XT HS2 DNA library preparation kit with index primer pairs 193–288, 96 reactions	G9985C
SureSelect XT HS2 DNA library preparation kit with index primer pairs 289–384, 96 reactions	G9985D
SureSelect XT HS2 DNA target enrichment kit, 12 hybridizations	G9987A
SureSelect enzymatic fragmentation kit, 16 reactions	5191-4079
SureSelect enzymatic fragmentation kit, 96 reactions	5191-4080

DNA-Seq Reagents Kits and Library Preparation Kits

SureSelectQXT Library Prep for WGS RUO

The SureSelect^{QXT} Library Prep for WGS products are transposase-based DNA library prep kits for whole-genome sequencing (WGS). The advanced workflow offers 1.5 hours of hands-on time and dual index barcodes.

The SureSelect^{QXT} shearing-free DNA library prep kits enable the generation of high-quality libraries. They offer more uniform coverage of the genome, especially in challenging AT-rich regions. The kits also provide master-mixed reagents and only require 50 ng of input DNA.

For Research Use Only. Not for use in diagnostic procedures.

Part Number	Description
G9684A	SureSelectQXT Library Prep kit, ILMN 16 rxn
G9684B	SureSelectQXT Library Prep kit, ILMN 96 rxn

Features

- Perform whole genome sequencing on human or non-human samples
- Run a transposase-based library prep workflow with dual indexing barcodes
- Eliminate the need for DNA shearing
- Available in 16- and 96-reaction formats, which support manual or automated processing
- Start with only 50 ng of input DNA
- Devote only 1.5 hours of hands-on time to library preparation for a more efficient lab

NGS TARGET ENRICHMENT

SURESELECT^{QXT}

TAKE A QUANTUM LEAP

Accelerated answers with 90-min hybridization

Benefits

Fastest Workflow

- Same day sample to sequencing from only 50 ng of gDNA
- Quick 90 minute hybridization and only 3.5 hr total hands-on time

Superior Performance

- High sensitivity, specificity and coverage of regions of interest
- Complete and accurate variant profiling with less sequencing

Complete and Flexible Solution

- Solutions for library prep, capture, QC, automation and analysis
- Enables analysis of genomes, exomes or custom targets

Overview

Assays of high sensitivity and minimal turn-around time that generate unambiguous results from minimal sample input are becoming essential. From the leader in target enrichment, SureSelect^{QXT} reagent kits enable single molecule resolution of variants with a streamlined same day sample to sequencing workflow from only 50 ng sample input. This is at least 3.5x faster with 30% less hands-on time compared to other transposase-based enrichment products (Figure 1).

Exceptional coverage and uniformity from SureSelect^{QXT}

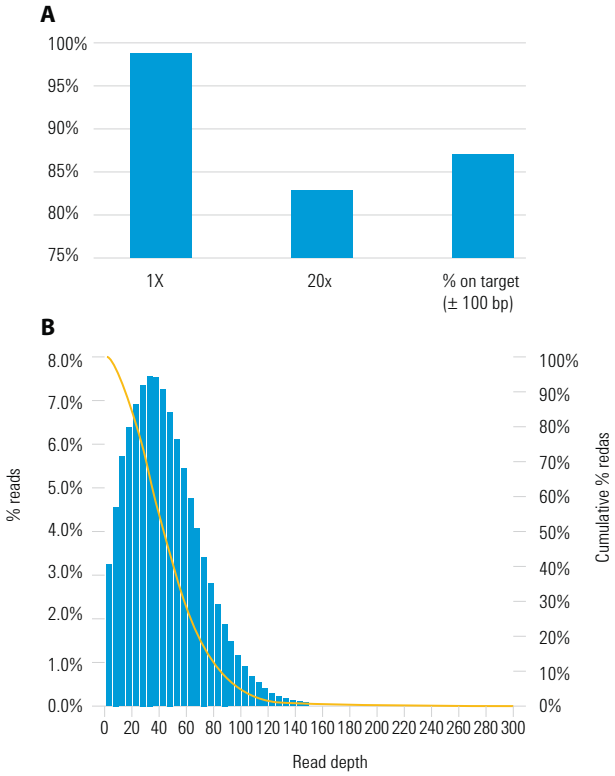


Figure 1. Excellent coverage of targeted bases at 20x coupled with superior on-target metric (A) and exceptional uniformity (B) enables decreased sequencing requirement while enabling confident variant calling (SureSelect Human All Exon V5, 4 Gb sequencing)

Streamlined workflow

SureSelect^{QXT} kits for Illumina sequencing couple a convenient, shearing-free, transposase-based library prep protocol with a quick 90 minute hybridization technology for the only same day sample to sequencing capture-based enrichment solution in the market (Figure 2). This revolutionary workflow greatly accelerates turn-around time from sample to data while providing deep coverage of genomic regions of interest, greatly advancing clinical research sequencing. SureSelect^{QXT} requires only 50 ng of sample input, allowing analysis of a wide range of sample types including those with limited availability. These features allow generation of data with high sensitivity and accuracy for confident variant calling of every sample, every single time.

SureSelect^{QXT} workflow efficiency

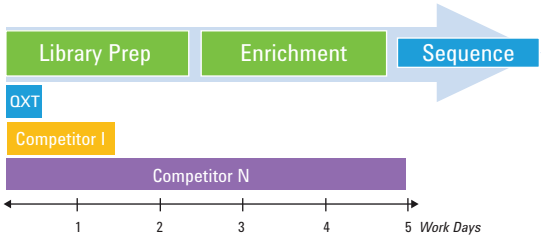
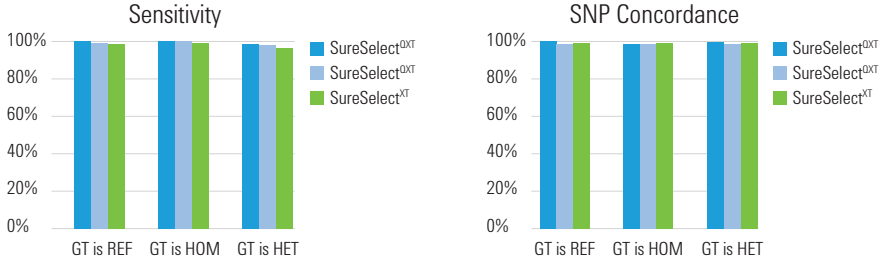


Figure 2. Enriched sequencing-ready libraries generated from 50 ng in 7 hours with only 3.5 hours of hands-on time enabling a 24–36 hour turn around time from sample-to-data when sequenced with the MiSeq or HiSeq2500 platforms.

Complete and accurate variant profiling from SureSelect^{QXT}



	SureSelect^{QXT} + V5	Competitor I
SNPs		
n_eval_sites	45162	24034
n_overlapping_sites	43819	22745
n_concordant	43761	22713
n_novel_sites	1343	1289
db_snp_rate	97.01	94.62
concordance_rate	100	99.86
InDels		
insertion	1411	699
deletion	1434	791

	16 rxn	96 rxn
SureSelect^{QXT} Reagent Kit	G9681A	G9681B
SureSelect^{QXT} Library Prep Kit	G9882A	G9682B

Figure 3. Excellent sensitivity and concordance for SNP and indel calling is achieved using SureSelect^{QXT} (SureSelect Human All Exon V5, 4 Gb sequencing).

Uncompromised performance

Exome enrichment using SureSelect^{QXT} kits provides coverage of 80% of targeted bases at 20x, providing support for variant calling, from only 4 Gb of sequencing. SureSelect^{QXT}'s superior performance in variant detection is enabled by SureSelect's proven hybridization technology, optimized to reduce hybridization time down to only 90 minutes, and the comprehensive exome design. Together, these ensure complete and accurate profiling of genomic regions of interest with the least amount of sequencing (Figure 3).

Accelerated discovery for your regions of interest

Easily create custom panels using SureDesign, a web-based tool that supports creation of custom target enrichment panels allowing focused interrogation of regions of interest.

Faster time to results for profiling exomes or custom genomic targets is enabled by SureCall, a simplified raw data to variant analysis software.

What Is It?

SureSelect$^{XT\ HS}$ joins the SureSelect library preparation reagent family as Agilent's highest sensitivity hybrid capture-based library prep and target enrichment solution for NGS.

Key features

- 10 ng of input DNA
- Optimized for high-quality intact DNA, low- and high-quality FFPE DNA
- Molecular barcode (MBC) tagged libraries increase positive predictive value (PPV)
- Higher complexity libraries with higher percentage reads in targeted regions
- 90-minute hybridization and master-mixed reagents for faster, more efficient workflow
- Optional enzymatic fragmentation module for more flexibility

FFPE Optimized

FFPE-optimized library prep from Agilent

SureSelect$^{XT\ HS}$ produces more complex libraries with a higher percentage of reads in targeted regions for a wide range of tissue types—in both fresh and FFPE samples—with only 10 - 200 ng of input material. To improve single nucleotide variant (SNV) calling and consistency across FFPE samples of varying quality, Agilent has developed a complete workflow solution that features DNA pre-qualification (FFPE QC Kit, PN G9700A and G9700B, and 4200 TapeStation System) and one-tube library preparation.

Advantages

- Improve SNV calling from FFPE DNA
- Reduce the number of library preparation steps, preventing DNA loss
- Prepare higher complexity libraries from both low- and high-quality DNA

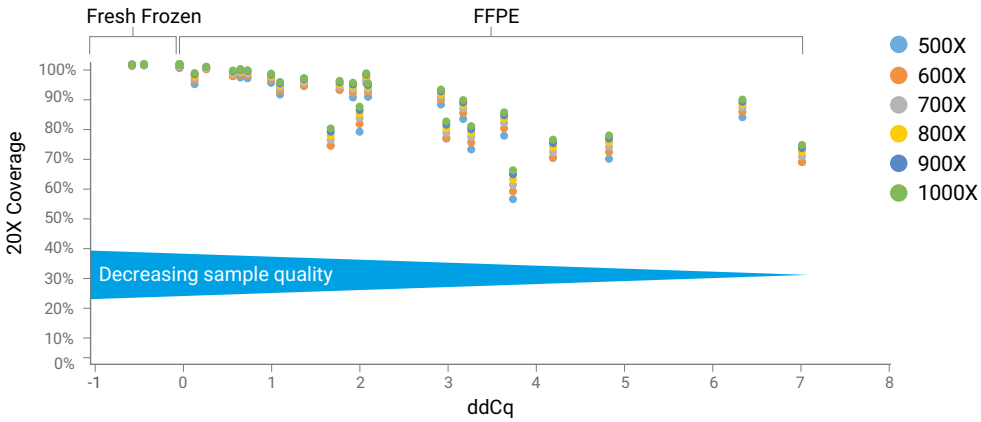


Figure 1. SureSelect$^{XT\ HS}$ optimized performance for FFPE with the majority of bases covered at 20X across decreasing sample quality. % bases covered by at least 20X read depth with increasing sequencing depth (4-8 million - 2x100 bp reads) is plotted against gDNA quality (qPCR-based gDNA quality (ddCq) and is calculated using Agilent's FFPE QC Assay kit).

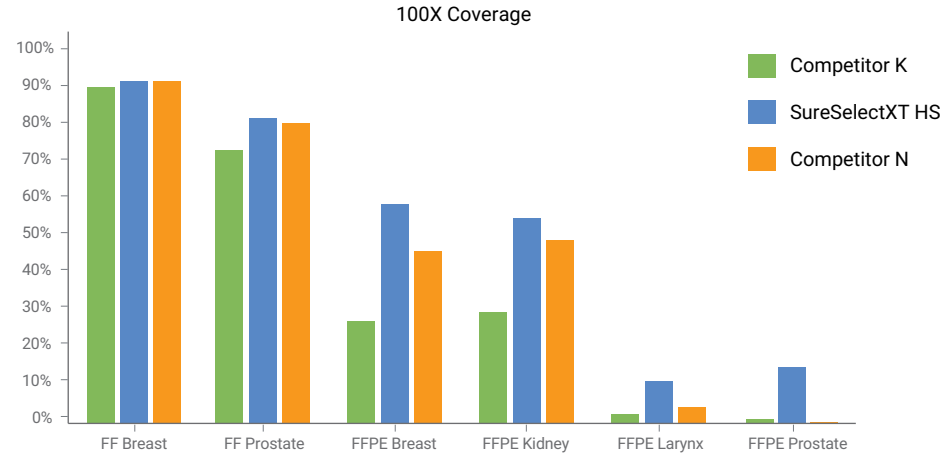


Figure 2. SureSelect$^{XT\ HS}$ outperforms other library prep solutions at 100X coverage, especially as sample quality decreases: % bases covered by at least 100X read depth is plotted against gDNA of decreasing quality (qPCR-based gDNA quality (ddCq) and is calculated using Agilent's FFPE QC Assay kit (based on 1000X sequencing depth with 8 million - 2x100 bp reads).

High Sensitivity

The significance of high sensitivity

Sensitivity refers to the percentage of true variants that are correctly identified. In most cases, sensitivity is limited by the input amount, performance of the assay, and PCR and sequencing error rates. As a result, the error level seen with traditional NGS assays typically interferes with the confidence of detecting low frequency variants due to tumor heterogeneity.

Superior sensitivity with SureSelect$^{XT\ HS}$

SureSelect$^{XT\ HS}$ incorporates molecular barcodes, which enables users to filter out artifacts produced during library preparation, target enrichment and sequencing that cause false positive variants. Molecular barcoding with SureSelect$^{XT\ HS}$ achieves industry-leading metrics, allowing the detection of rare variants down to ≤ 1%. This is significant as most users employ a confidence threshold and only call variants above 3-5% allele frequency.

Advantages

- Detect variants at a frequency of ≤ 1%
- Eliminate amplification and sequencing artifacts that limit the sensitivity of NGS
- Increase data quality and elevate confidence in sequencing results with as little as 10 ng of starting DNA

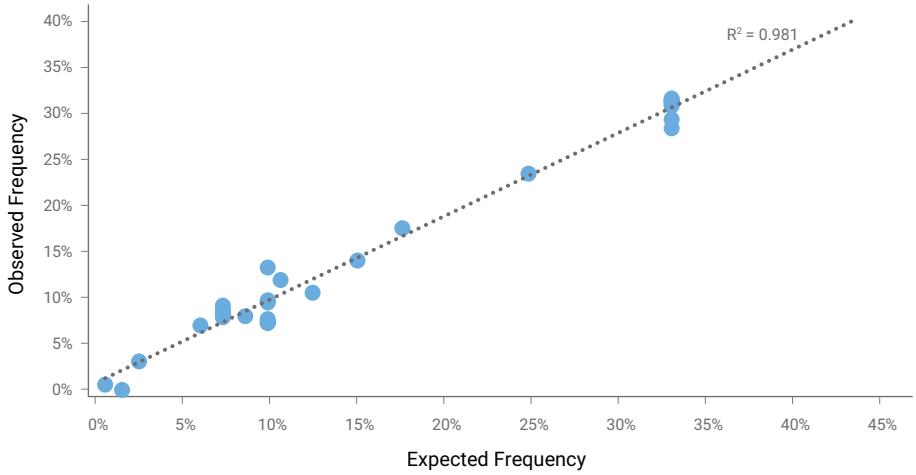


Figure 3. Detect down to 1% allele frequency. SureSelect$^{XT\ HS}$ generated library sequenced to 3000X depth produces high correlation of observed to expected frequency down to as little as 1% VAF (HD200 Quantitative Multiplex Reference Standard and ClearSeq Comprehensive Cancer Panel).

Molecular Barcodes

What are molecular barcodes?

Molecular barcodes are unique sequences of DNA that attach to each original DNA fragment in a given sample. These unique sequences of DNA can either contain randomized nucleotides, partially degenerate nucleotides or defined nucleotides. Attachment of the molecular barcodes to a DNA fragment results in a unique identifier assigned to each input molecule.

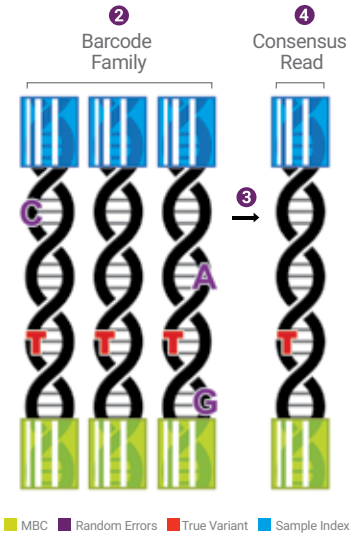
Basic molecular barcode (MBC) analysis

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)



Advantages

- Improve detection of low-frequency alleles by removing false positives
- Increase the ability to accurately call biologically relevant variants occurring at ≤ 1% variant allele frequency (VAF)

Why are molecular barcodes important?

Errors introduced during PCR amplification and sequencing increase the overall error rate of the original DNA template. These errors, or false positives, result in a decrease of sensitivity for real mutations that occur at low levels in a sample. This issue is especially relevant for more heterogeneous cell populations, such as certain tumor subpopulations. Molecular barcodes enable users to detect low-frequency mutations in template DNA molecules by removing false positives and providing error correction for more accurate variant calling.

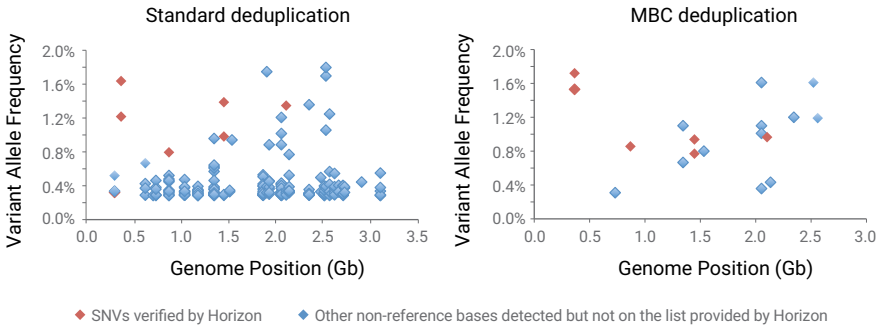


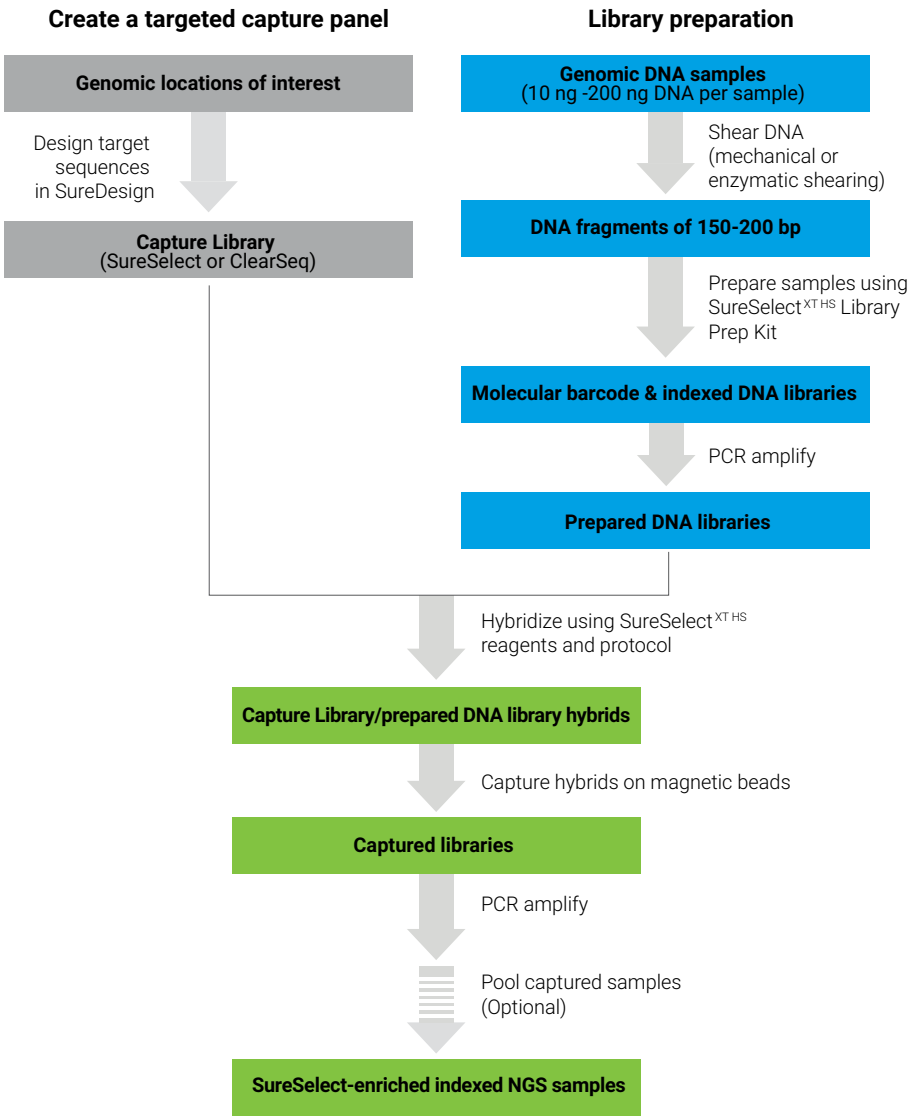
Figure 4. Improved data quality with molecular barcodes (MBC) analysis. Targeted sequencing of SureSelect$^{XT\,HS}$ libraries from Horizon cfDNA reference and a custom 164 kb SureSelect panel achieved a median coverage of 808(standard) / 906(MBC) after deduplication. 216 non-reference alleles were detected at a variant allele frequency of less than 2% with standard deduplication compared to 18 using the MBC. This represents a 92% reduction in false calls. Courtesy of Dr. L.J. Barber and Dr. M. Gerlinger, Centre for Evolution and Cancer, The Institute of Cancer Research, London, UK.

Streamlined Workflow

Expedite analysis with a streamlined workflow

SureSelect$^{XT\ HS}$ reduces the number of individual enzymatic steps, clean-up steps and sample transfers, allowing users to streamline and maintain library complexity, especially at lower input amounts (as little as 10 ng). Agilent delivers the fastest hybridization on the market. Our 90-minute hybridization, combined with more efficient processing with master-mixed reagents, enables users to go from samples to sequencing-ready libraries in one day. Additionally, the workflow supports deep multiplex sequencing for up to 32 samples in one pool.

SureSelect$^{XT\ HS}$ NGS Target Enrichment Workflow



Advantages

- Process samples faster and more efficiently with a 90-minute hybridization and master-mixed reagents
- Transform samples into sequencing-ready libraries in less than one day
- Streamline data analysis with the Agilent SureCall software

SureSelect Library Prep & Target Enrichment Solution

Agilent has a wide variety of library prep and target enrichment solutions that suit both cancer and constitutional applications. Starting with as little as 10 ng, or as much as 3 ug of DNA, there is a library prep and target enrichment solution that works seamlessly with a ClearSeq Panel, a SureSelect Exome or a Custom Panel.

Table 1. SureSelect library prep solutions for cancer and constitutional applications.

Product Name	SureSelectXT HS	SureSelectXT Low Input	SureSelectXT	SureSelectXT2	SureSelectQXT
DNA Input	**10 ng - 200 ng**	10 ng - 200 ng	200 ng - 3 µg	100 ng - 1 µg	50 ng
Turnaround Time	**8 hr**	8 hr	1.5 day	1.5 day	7 hours
Covaris Needed	**Yes**	Yes	Yes	Yes	No
Library Complexity	**Highest**	Highest	High	Medium	Medium
Unique Features	– **FFPE optimized** – **Enzymatic shearing (optional)** – **Molecular barcodes** – **Mastermixed reagents** – **Samples indexed prior to capture eliminating concern of cross sample contamination**	– FFPE optimized – Enzymatic shearing (optional) – Molecular barcodes (optional) – Unique dual sample indexes (optional) – Mastermixed reagents – Samples indexed prior to capture eliminating concern of cross sample contamination – Automation available	– Compatible with FFPE samples – Robust variant identification	– Pre-capture pooling – Mastermix reagents	– Transposase-based – Mastermix reagents – Whole genome sequencing and target enrichment compatible – For intact DNA only
Key Benefits	**High sensitivity for ≤1% VAF**	Unique dual sample indexes and automation	High-complexity libraries for rare allele detection	Cost-effective	Covaris-free workflow

Ordering information

Product Description	Part Number
16 Reactions	
SureSelectXT HS Reagent Kit, index 1-16	G9702A
SureSelectXT HS Reagent Kit, index 1-16 + 1-499 kb Target Enrichment Baits	G9704A
SureSelectXT HS Reagent Kit, index 1-16 + 0.5-2.9 Mb Target Enrichment Baits	G9704B
SureSelectXT HS Reagent Kit, index 1-16 + 3-5.9 Mb Target Enrichment Baits	G9704C
SureSelectXT HS Reagent Kit, index 1-16 + 6-11.9 Mb Target Enrichment Baits	G9704D
SureSelectXT HS Reagent Kit, index 1-16 + 12-24 Mb Target Enrichment Baits	G9704E
SureSelectXT HS Reagent Kit, index 1-16 + ClearSeq Comprehensive Cancer Target Enrichment Baits	G9704G
SureSelectXT HS Reagent Kit, index 1-16 + Clinical Research Exome V2 Target Enrichment Baits	G9704H
SureSelectXT HS Reagent Kit, index 1-16 + Clinical Research Exome V2 Plus Target Enrichment Baits	G9704J
SureSelectXT HS Reagent Kit, index 1-16 + Human All Exon V6 Target Enrichment Baits	G9704K
SureSelectXT HS Reagent Kit, index 1-16 + Human All Exon V6 Plus Target Enrichment Baits	G9704L
SureSelect XT HS Reagent Kit, index 1-16 + Human All Exon V6+UTR Target Enrichment Baits	G9704M
SureSelectXT HS Reagent Kit, index 1-16 + Human All Exon V7 Target Enrichment Baits	G9704N
SureSelectXT HS Reagent Kit, index 1-16 + Human All Exon V7 Plus 1 Target Enrichment Baits	G9704P
SureSelectXT HS Reagent Kit, index 1-16 + Human All Exon V7 Plus 2 Target Enrichment Baits	G9704Q
SureSelectXT HS Reagent Kit, Index 17-32	G9702B
SureSelectXT HS Reagent Kit, index 17-32 + 1-499 kb Target Enrichment Baits	G9705A
SureSelectXT HS Reagent Kit, index 17-32 + 0.5-2.9 Mb Target Enrichment Baits	G9705B
SureSelectXT HS Reagent Kit, index 17-32 + 3-5.9 Mb Target Enrichment Baits	G9705C
SureSelectXT HS Reagent Kit, index 17-32 + 6-11.9 Mb Target Enrichment Baits	G9705D
SureSelectXT HS Reagent Kit, index 17-32 + 12-24 Mb Target Enrichment Baits	G9705E
SureSelectXT HS Reagent Kit, index 17-32 + ClearSeq Comprehensive Cancer Target Enrichment Baits	G9705G
SureSelectXT HS Reagent Kit, index 17-32 + Clinical Research Exome V2 Target Enrichment Baits	G9705H
SureSelectXT HS Reagent Kit, index 17-32 + Clinical Research Exome V2 Plus Target Enrichment Baits	G9705J
SureSelectXT HS Reagent Kit, index 17-32 + Human All Exon V6 Target Enrichment Baits	G9705K
SureSelectXT HS Reagent Kit, index 17-32 + Human All Exon V6 Plus Target Enrichment Baits	G9705L
SureSelect XT HS Reagent Kit, index 17-32 + Human All Exon V6+UTR Target Enrichment Baits	G9705M
SureSelectXT HS Reagent Kit, index 17-32 + Human All Exon V7 Target Enrichment Baits	G9705N
SureSelectXT HS Reagent Kit, index 17-32 + Human All Exon V7 Plus 1 Target Enrichment Baits	G9705P
SureSelectXT HS Reagent Kit, index 17-32 + Human All Exon V7 Plus 2 Target Enrichment Baits	G9705Q

Product Description	Part Number
96 Reactions	
SureSelectXT HS Reagent Kit, Index 1-32	G9702C
SureSelectXT HS Reagent Kit, index 1-32 + 1-499 kb Target Enrichment Baits	G9706A
SureSelectXT HS Reagent Kit, index 1-32 + 0.5-2.9 Mb Target Enrichment Baits	G9706B
SureSelectXT HS Reagent Kit, index 1-32 + 3-5.9 Mb Target Enrichment Baits	G9706C
SureSelectXT HS Reagent Kit, index 1-32 + 6-11.9 Mb Target Enrichment Baits	G9706D
SureSelectXT HS Reagent Kit, index 1-32 + 12-24 Mb Target Enrichment Baits	G9706E
SureSelectXT HS Reagent Kit, index 1-32 + ClearSeq Comprehensive Cancer Target Enrichment Baits	G9706G
SureSelectXT HS Reagent Kit, index 1-32 + Clinical Research Exome V2 Target Enrichment Baits	G9706H
SureSelectXT HS Reagent Kit, index 1-32 + Clinical Research Exome V2 Plus Target Enrichment Baits	G9706J
SureSelectXT HS Reagent Kit, index 1-32 + Human All Exon V6 Target Enrichment Baits	G9706K
SureSelectXT HS Reagent Kit, index 1-32 + Human All Exon V6 Plus Target Enrichment Baits	G9706L
SureSelect XT HS Reagent Kit, index 1-32 + Human All Exon V6+UTR Target Enrichment Baits	G9706M
SureSelectXT HS Reagent Kit, index 1-32 + Human All Exon V7 Target Enrichment Baits	G9706N
SureSelectXT HS Reagent Kit, index 1-32 + Human All Exon V7 Plus 1 Target Enrichment Baits	G9706P
SureSelectXT HS Reagent Kit, index 1-32 + Human All Exon V7 Plus 2 Target Enrichment Baits	G9706Q

Product Description	Part Number
SureSelect XT HS Enzymatic Fragmentation Kit, 16 Reactions	5191-4079
SureSelect XT HS and XT Low Input Enzymatic Fragmentation Kit, 96 Reactions	5191-4080

What Is It?

SureSelect^{XT} Low Input is a low-input, FFPE-optimized library preparation kit. Now with 192 sample barcodes, it is the newest of Agilent's SureSelect hybrid-capture based target enrichment solutions for NGS.

Key features

- 10 ng of input DNA
- Optimized for high-quality intact DNA, low- and high-quality FFPE DNA
- 90-minute hybridization and master-mixed reagents for faster, more efficient workflow
- Molecular barcode (MBC) tagged libraries increase positive predictive value (optional)
- 96 unique dual sample indexes to minimize index hopping (optional)
- Optional enzymatic fragmentation module for more flexibility
- Automation available

Low Input

The need for a low input solution

Researchers are often faced with limited amounts of DNA from fresh frozen or FFPE of varying quality. A robust library prep is needed to ensure quality results from these valuable samples. SureSelect^{XT} Low Input enables target enrichment of as little as 10 ng to 200 ng of DNA in just a day. With master-mixed reagents, you can process samples more efficiently and pool up to 192 samples per sequencing run.

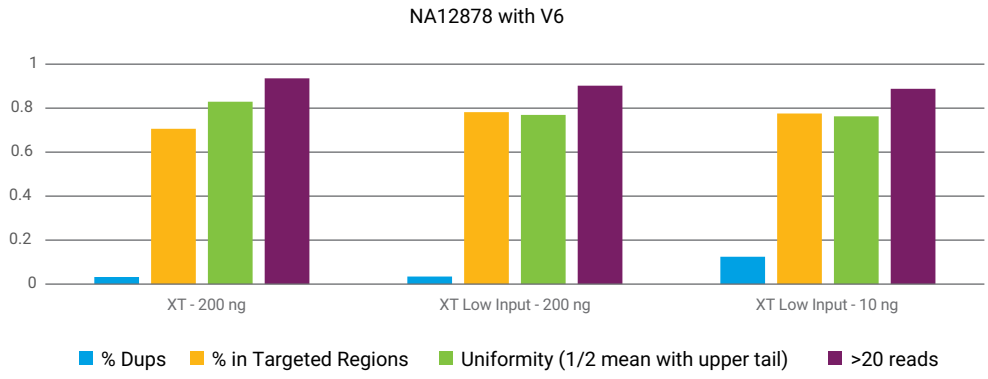


Figure 1. SureSelect^{XT} Low Input provides the same high-quality libraries at both 10 ng and 200 ng of input DNA.

FFPE Optimized

The importance of an FFPE-optimized library prep

While FFPE samples provide a valuable source of diverse genetic information, one of the hurdles in isolating DNA from FFPE tissue is the purification of DNA of sufficient molecular weight and quality for amplification and detection. Typically, by the time FFPE DNA is prepared for library generation, it is too degraded for high-sensitivity NGS. It is thus crucial to optimize the library preparation and minimize the number of steps to reduce sample loss and achieve high-quality libraries from challenging sample types.

FFPE-optimized library prep from Agilent

SureSelect^{XT} Low Input produces more complex libraries with a higher percentage of reads in targeted regions for a wide range of tissue types—in both fresh and FFPE samples. To improve single nucleotide variant (SNV) calling and consistency across FFPE samples of varying quality, Agilent has developed a complete workflow solution that features DNA pre-qualification (FFPE QC Kit, PN G9700A and G9700B and 4200 TapeStation System) and one-tube library preparation.

Advantages

- Improve SNV calling from FFPE DNA
- Reduce the number of library preparation steps, preventing DNA loss
- Prepare higher complexity libraries from both low- and high-quality DNA

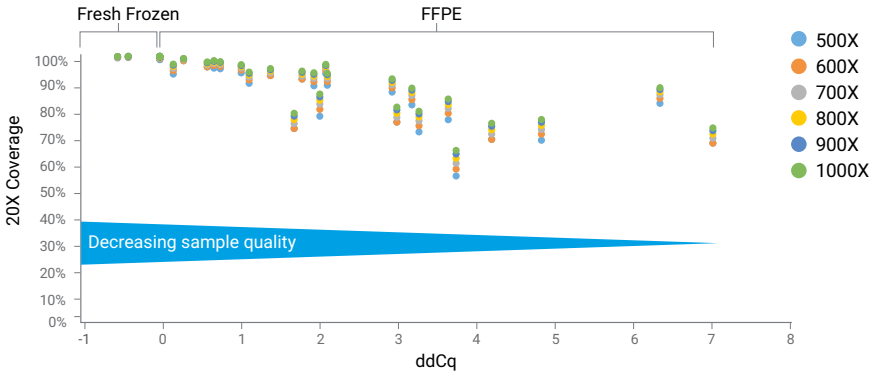


Figure 2. SureSelect^{XT} Low Input optimized performance for FFPE with the majority of bases covered at 20X across decreasing sample quality. % bases covered by at least 20X read depth with increasing sequencing depth (4-8 million - 2x100 bp reads) is plotted against gDNA quality (qPCR-based gDNA quality (ddCq) and is calculated using Agilent's FFPE QC Assay kit).

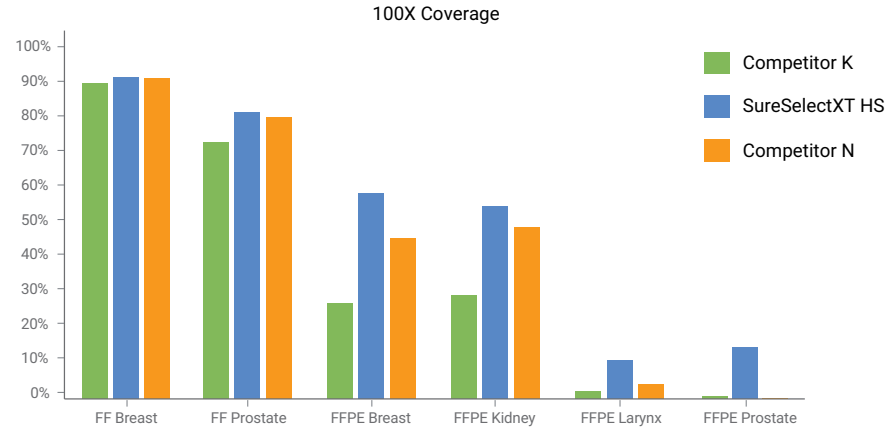
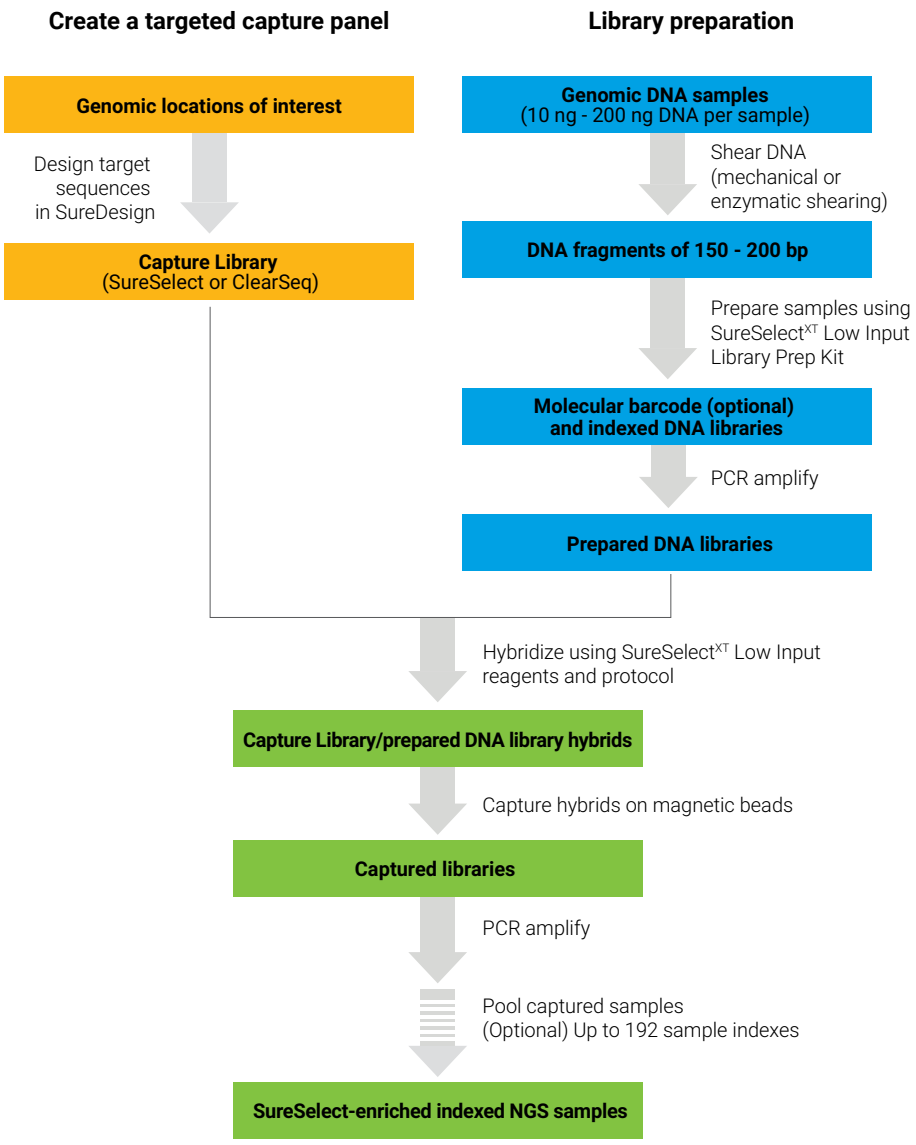


Figure 3. SureSelect^{XT} Low Input outperforms other library prep solutions at 100X coverage, especially as sample quality decreases: % bases covered by at least 100X read depth is plotted against gDNA of decreasing quality (qPCR-based gDNA quality (ddCq) and is calculated using Agilent's FFPE QC Assay kit (based on 1000X sequencing depth with 8 million - 2x100bp reads).

Streamlined Workflow

Expedite analysis with a streamlined workflow

SureSelect^{XT} Low Input reduces the number of individual enzymatic steps, clean-up steps and sample transfers, allowing users to streamline and maintain library complexity, especially at lower input amounts. Agilent delivers the fastest hybridization on the market. Our 90-minute hybridization, combined with more efficient processing with master-mixed reagents, enables users to go from samples to sequencing-ready libraries in one day. Additionally, you can now pool up to 192 enriched libraries.



Advantages

- Process samples faster and more efficiently with a 90-minute hybridization and master-mixed reagents
- Transform samples into sequencing-ready libraries in less than one day
- Streamline data analysis with the Agilent SureCall software

SureSelect Library Prep & Target Enrichment Solution

Agilent has a wide variety of library prep and target enrichment solutions that suit both cancer and constitutional applications. Starting with as little as 10 ng, or as much as 3 ug of DNA, there is a library prep and target enrichment solution that works seamlessly with a ClearSeq Panel, a SureSelect Exome or a Custom Panel.

Table 1. SureSelect library prep solutions for cancer and constitutional applications.

Product Name	SureSelect$^{XT\ HS}$	SureSelect^{XT} Low Input	SureSelect^{XT}	SureSelect^{XT2}	SureSelect^{QXT}
DNA Input	10 ng - 200 ng	**10 ng - 200 ng**	200 ng - 3 µg	100 ng - 1 µg	50 ng
Turnaround Time	8 hr	**8 hr**	1.5 day	1.5 day	7 hours
Covaris Needed	Yes	**Yes**	Yes	Yes	No
Library Complexity	Highest	**Highest**	High	Medium	Medium
Unique Features	– FFPE optimized – Enzymatic shearing (optional) – Molecular barcodes – Mastermixed reagents – Samples indexed prior to capture eliminating concern of cross sample contamination	– **FFPE optimized** – **Enzymatic shearing (optional)** – **Molecular barcodes (optional)** – **Unique dual sample indexes (optional)** – **Mastermixed reagents** – **Samples indexed prior to capture eliminating concern of cross sample contamination** – **Automation available**	– Compatible with FFPE samples – Robust variant identification	– Pre-capture pooling – Mastermix reagents	– Transposase-based – Mastermix reagents – Whole genome sequencing and target enrichment compatible – For intact DNA only
Key Benefits	High sensitivity for ≤1% VAF	**Unique dual sample indexes and automation**	High-complexity libraries for rare allele detection	Cost-effective	Covaris-free workflow

Ordering information

Product Description	Part Number
96 Reactions	
SureSelectXT Low Input Reagent Kit, Index 1-96	G9703A
SureSelectXT Low Input Reagent Kit, index 1-96 + 1-499 kb Target Enrichment Baits, 96 rxn	G9707A
SureSelectXT Low Input Reagent Kit, index 1-96 + 0.5-2.9 Mb Target Enrichment Baits, 96 rxn	G9707B
SureSelectXT Low Input Reagent Kit, index 1-96 + 3-5.9 Mb Target Enrichment Baits, 96 rxn	G9707C
SureSelectXT Low Input Reagent Kit, index 1-96 + 6-11.9 Mb Target Enrichment Baits, 96 rxn	G9707D
SureSelectXT Low Input Reagent Kit, index 1-96 + 12-24 Mb Target Enrichment Baits, 96 rxn	G9707E
SureSelectXT Low Input Reagent Kit, index 1-96 + ClearSeq Comprehensive Cancer Target Enrichment Baits, 96 rxn	G9707G
SureSelectXT Low Input Reagent Kit, index 1-96 + Clinical Research Exome v2 Target Enrichment Baits, 96 rxn	G9707H
SureSelectXT Low Input Reagent Kit, index 1-96 + Clinical Research Exome v2 Plus Target Enrichment Baits, 96 rxn	G9707J
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6 Target Enrichment Baits, 96 rxn	G9707K
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6 Plus Target Enrichment Baits, 96 rxn	G9707L
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6+UTR Target Enrichment Baits, 96 rxn	G9707M
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Target Enrichment Baits	G9707N
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Plus 1 Target Enrichment Baits	G9707P
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Plus 2 Target Enrichment Baits	G9707Q
SureSelectXT Low Input Reagent Kit, Index 97-192	G9703B
SureSelectXT Low Input Reagent Kit, index 97-192 + 1-499 kb Target Enrichment Baits, 96 rxn	G9708A
SureSelectXT Low Input Reagent Kit, index 97-192 + 0.5-2.9 Mb Target Enrichment Baits, 96 rxn	G9708B
SureSelect XT Low Input Reagent Kit, index 97-192 + 3-5.9 Mb Target Enrichment Baits, 96 rxn	G9708C
SureSelectXT Low Input Reagent Kit, index 97-192 + 6-11.9 Mb Target Enrichment Baits, 96 rxn	G9708D
SureSelectXT Low Input Reagent Kit, index 97-192 + 12-24 Mb Target Enrichment Baits, 96 rxn	G9708E
SureSelectXT Low Input Reagent Kit, index 97-192 + ClearSeq Comprehensive Cancer Target Enrichment Baits, 96 rxn	G9708G
SureSelectXT Low Input Reagent Kit, index 97-192 + Clinical Research Exome v2 Target Enrichment Baits, 96 rxn	G9708H
SureSelectXT Low Input Reagent Kit, index 97-192 + Clinical Research Exome v2 Plus Target Enrichment Baits, 96 rxn	G9708J
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6 Target Enrichment Baits, 96 rxn	G9708K
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6 Plus Target Enrichment Baits, 96 rxn	G9708L
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6+UTR Target Enrichment Baits, 96 rxn	G9708M
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Target Enrichment Baits	G9708N
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Plus 1 Target Enrichment Baits	G9708P
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Plus 2 Target Enrichment Baits	G9708Q
SureSelectXT Low Input Reagent Kit, index 1-96 + 1-499 kb Target Enrichment Baits, 96 rxn, Auto	G9507A
SureSelectXT Low Input Reagent Kit, index 1-96 + 0.5-2.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9507B
SureSelectXT Low Input Reagent Kit, index 1-96 + 3-5.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9507C
SureSelectXT Low Input Reagent Kit, index 1-96 + 6-11.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9507D
SureSelectXT Low Input Reagent Kit, index 1-96 + 12-24 Mb Target Enrichment Baits, 96 rxn, Auto	G9507E
SureSelectXT Low Input Reagent Kit, index 1-96 + ClearSeq Comprehensive Cancer Target Enrichment Baits, 96 rxn, Auto	G9507G
SureSelectXT Low Input Reagent Kit, index 1-96 + Clinical Research Exome v2 Target Enrichment Baits, 96 rxn, Auto	G9507H
SureSelectXT Low Input Reagent Kit, index 1-96 + Clinical Research Exome v2 Plus Target Enrichment Baits, 96 rxn, Auto	G9507J
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6 Target Enrichment Baits, 96 rxn, Auto	G9507K
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6 Plus Target Enrichment Baits, 96 rxn, Auto	G9507L
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon v6+UTR Target Enrichment Baits, 96 rxn, Auto	G9507M
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Target Enrichment Baits, Auto	G9507N
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Plus 1 Target Enrichment Baits, Auto	G9507P
SureSelectXT Low Input Reagent Kit, index 1-96 + Human All Exon V7 Plus 2 Target Enrichment Baits, Auto	G9507Q

Product Description	Part Number
96 Reactions	
SureSelectXT Low Input Reagent Kit, index 97-192 + 1-499 kb Target Enrichment Baits, 96 rxn, Auto	G9508A
SureSelectXT Low Input Reagent Kit, index 97-192 + 0.5-2.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9508B
SureSelectXT Low Input Reagent Kit, index 97-192 + 3-5.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9508C
SureSelectXT Low Input Reagent Kit, index 97-192 + 6-11.9 Mb Target Enrichment Baits, 96 rxn, Auto	G9508D
SureSelectXT Low Input Reagent Kit, index 97-192 + 12-24 Mb Target Enrichment Baits, 96 rxn, Auto	G9508E
SureSelectXT Low Input Reagent Kit, index 97-192 + ClearSeq Comprehensive Cancer Target Enrichment Baits, 96 rxn, Auto	G9508G
SureSelectXT Low Input Reagent Kit, index 97-192 + Clinical Research Exome v2 Target Enrichment Baits, 96 rxn, Auto	G9508H
SureSelectXT Low Input Reagent Kit, index 97-192 + Clinical Research Exome v2 Plus Target Enrichment Baits, 96 rxn, Auto	G9508J
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6 Target Enrichment Baits, 96 rxn, Auto	G9508K
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6 Plus Target Enrichment Baits, 96 rxn, Auto	G9508L
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon v6+UTR Target Enrichment Baits, 96 rxn, Auto	G9508M
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Target Enrichment Baits, Auto	G9508N
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Plus 1 Target Enrichment Baits, Auto	G9508P
SureSelectXT Low Input Reagent Kit, index 97-192 + Human All Exon V7 Plus 2 Target Enrichment Baits, Auto	G9508Q

Product Description	Part Number
SureSelect XT Low Input Dual Index P5 Indexed Adapters 1-96 for ILM	5191-4056
SureSelect XT HS and XT Low Input Enzymatic Fragmentation Kit, 96 Reactions	5191-4080

NGS TARGET ENRICHMENT

SureSelect^{XT} Human Methyl-Seq

Uncover Epigenetic Signatures Faster

Benefits

- 84 Mb design covering 3.7 million CpGs
- Probes are not methylation-state dependent
- High sensitivity with single base resolution
- Increased throughput and reduced cost
- Reduce bias compared to existing methylation methods

The First Comprehensive Methylation Discovery System

SureSelect^{XT} Human Methyl-Seq is the first comprehensive target enrichment system to enable researchers to focus on the regions where methylation is known to impact gene regulation: CpG islands, CpG island shores, CpG island shelves, undermethylated regions, promoters, and differentially methylated regions (DMRs).

SureSelect^{XT} Human Methyl-Seq

- Uniquely delivers more information than methylation microarrays by detecting individual CpGs
- Increases throughput while reducing costs compared to whole genome bisulfite sequencing
- Reveals methylated regions not detected by restriction enzyme and immunoprecipitation or SNP-based assays

SureSelect^{XT} Human Methyl-Seq Protocol

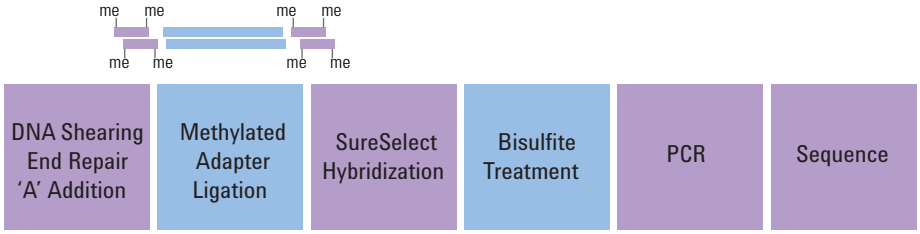


Figure 1. The SureSelect^{XT} Human Methyl-Seq protocol is optimized for DNA methylation analysis using the Agilent SureSelect target enrichment system.

SureSelect^XT Human Methyl-Seq Content Types

- CpG islands
- GENCODE promoters
- Cancer, tissue-specific DMRs, or regulatory features in:
  - CpG Islands, shores/shelves (± 4 kb)
  - Enhancers
  - Ensemble regulatory regions
  - DNase I hypersensitive sites

GeneSpring NGS software for DNA Methylation Analysis

- Quickly visualize methylation level, CpG region coverage, read alignment, and base quality
- Gain biological insight by identifying methylation states with single base-pair resolution and by overlaying with specific genes of interest
- Find DMR's & DMC's, their genic & intergenic effects, and correlate to QPCR, ChIP-seq, and RNA-seq results

SureSelect^XT Human Methyl-Seq Results

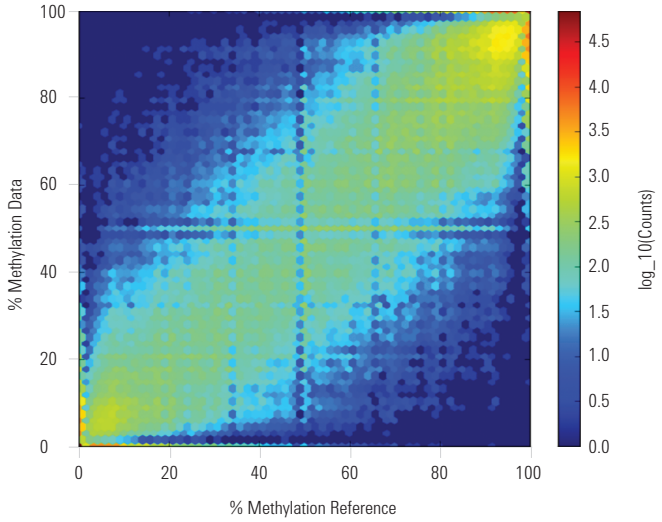


Figure 2. Methyl-Seq achieves excellent correlation with whole genome bisulfite sequencing (WGS) data (R=0.93, Lister R. et al. 2009).

Figure 3. GeneSpring NGS allows you to easily visualize methylation results. Lollipop plot shows methylated C's as circles colored by intensities relative to their methylation level or p-values.

DNA-Seq Reagents Kits and Library Preparation Kits

SureSelectXT Reagent Kits

RUO

The SureSelect^{XT} Reagent Kits provide DNA library prep solutions with hybrid capture-based target enrichment. They include all reagents for library preparation, hybridization, and capture. They can be coupled with any SureSelect custom or catalog panel or exome.

SureSelect^{XT} Reagent Kits enable post-capture pooling of enriched, sequencing-ready libraries. The kits are compatible with FFPE samples and high-quality libraries can be generated from 3 µg DNA input or lower 200 ng input. This kit provides high-complexity libraries for rare allele detection.

For Research Use Only. Not for use in diagnostic procedures.

Part Number	Description
G9611A	SureSelectXT reagent kit, HSQ, 16
G9611B	SureSelectXT reagent kit, HSQ, 96
G9612A	SureSelectXT reagent kit, MSQ, 16
G9612B	SureSelectXT reagent kit, MSQ, 96
G9641B	SureSelectXT reagent kit, HSQ, 96, auto
G9642B	SureSelectXT reagent kit, MSQ, 96, auto

Features

- Sequence exomes or panels up to 24 MB using a 16-hour hybridization in a 1.5-day workflow.
- Start with the standard 3 µg input for highest complexity or 200 ng input for smaller samples.
- Reagents for ligation-based library prep and hybrid capture-based target enrichment, including single index bar codes, are available (baits are ordered separately).
- You can buy kits in 16- and 96-reaction, or 96- reaction, automation-compatible kits for maximum sample processing flexibility.
- Use with SureSelect exomes, or catalog panels, or easily create custom panels with the SureDesign software application.

NGS – Revolutionizing Clinical Research

In 2009, Agilent introduced SureSelect, the first target enrichment solution for next generation sequencing. It enabled cost-effective analysis of thousands of targets, a paradigm shift in the understanding of disease pathogenesis. Since then Agilent has become a leader in target enrichment solutions providing the complete solution from library prep, enrichment, sample quality control, automation and data analysis.

Library Preparation

For superior results - Agilent's reagents provide a complete validated solution

SureSelect$^{XT\ HS}$ Reagent Kits

SureSelect$^{XT\ HS}$ joins the SureSelect library preparation reagent family as Agilent's highest sensitivity hybrid capture-based library prep and target enrichment solution for NGS, and it is optimized for FFPE samples with as little as 10 ng of input DNA.

Description	Kit Size	Part Number
SureSelectXT HS Reagent Kit, index 1-16		
+ 1-499 kb Target Enrichment Baits	16 rxn	G9704A
+ 0.5-2.9 Mb Target Enrichment Baits	16 rxn	G9704B
+ 3-5.9 Mb Target Enrichment Baits	16 rxn	G9704C
+ 6-11.9 Mb Target Enrichment Baits	16 rxn	G9704D
+ 12-24 Mb Target Enrichment Baits	16 rxn	G9704E
+ ClearSeq Comprehensive Cancer Target Enrichment Baits	16 rxn	G9704G
+ Clinical Research Exome v2 Target Enrichment Baits	16 rxn	G9704H
+ Clinical Research Exome v2 Plus Target Enrichment Baits	16 rxn	G9704J
+ Human All Exon v6 Target Enrichment Baits	16 rxn	G9704K
+ Human All Exon v6 Plus Target Enrichment Baits	16 rxn	G9704L
SureSelectXT HS Reagent Kit, index 17-32		
+ 1-499 kb Target Enrichment Baits	16 rxn	G9705A
+ 0.5-2.9 Mb Target Enrichment Baits	16 rxn	G9705B
+ 3-5.9 Mb Target Enrichment Baits	16 rxn	G9705C
+ 6-11.9 Mb Target Enrichment Baits	16 rxn	G9705D
+ 12-24 Mb Target Enrichment Baits	16 rxn	G9705E
+ ClearSeq Comprehensive Cancer Target Enrichment Baits	16 rxn	G9705G
+ Clinical Research Exome v2 Target Enrichment Baits	16 rxn	G9705H
+ Clinical Research Exome v2 Plus Target Enrichment Baits	16 rxn	G9705J
+ Human All Exon v6 Target Enrichment Baits	16 rxn	G9705K
+ Human All Exon v6 Plus Target Enrichment Baits	16 rxn	G9705L

SureSelect$^{XT\ HS}$ Reagent Kits Cont.

Description	Kit Size	Part Number
SureSelectXT HS Reagent Kit, index 1-32		
+ 1-499 kb Target Enrichment Baits	96 rxn	G9706A
+ 0.5-2.9 Mb Target Enrichment Baits	96 rxn	G9706B
+ 3-5.9 Mb Target Enrichment Baits	96 rxn	G9706C
+ 6-11.9 Mb Target Enrichment Baits	96 rxn	G9706D
+ 12-24 Mb Target Enrichment Baits	96 rxn	G9706E
+ ClearSeq Comprehensive Cancer Target Enrichment Baits	96 rxn	G9706G
+ Clinical Research Exome v2 Target Enrichment Baits	96 rxn	G9706H
+ Clinical Research Exome v2 Plus Target Enrichment Baits	96 rxn	G9706J
+ Human All Exon v6 Target Enrichment Baits	96 rxn	G9706K
+ Human All Exon v6 Plus Target Enrichment Baits	96 rxn	G9706L

SureSelect^{XT} Low Input Reagent Kits

SureSelect^{XT} Low Input is a low-input, FFPE-optimized library preparation kit. Now with 96 sample barcodes, it is the newest of Agilent's SureSelect hybrid-capture based target enrichment solutions for NGS.

Description	Kit Size	Part Number
SureSelectXT Low Input Reagent Kit, index 1-96		
+ 1-499 kb Target Enrichment Baits	96 rxn	G9707A
+ 0.5-2.9 Mb Target Enrichment Baits	96 rxn	G9707B
+ 3-5.9 Mb Target Enrichment Baits	96 rxn	G9707C
+ 6-11.9 Mb Target Enrichment Baits	96 rxn	G9707D
+ 12-24 Mb Target Enrichment Baits	96 rxn	G9707E
+ ClearSeq Comprehensive Cancer Target Enrichment Baits	96 rxn	G9707G
+ Clinical Research Exome v2 Target Enrichment Baits	96 rxn	G9707H
+ Clinical Research Exome v2 Plus Target Enrichment Baits	96 rxn	G9707J
+ Human All Exon v6 Target Enrichment Baits	96 rxn	G9707K
+ Human All Exon v6 Plus Target Enrichment Baits	96 rxn	G9707L

SureSelect^{XT} Reagent Kits

The SureSelect^{XT} Reagent Kit enables post-capture pooling of enriched sequencing-ready libraries. This protocol provides the highest complexity libraries from either 200 ng or 3 µg of input DNA.

Description	Kit Size	Part Number
SureSelectXT Reagent Kit, HiSeq	16 samples	G9611A
	96 samples	G9611B
	96 auto	G9641B
SureSelectXT Reagent Kit, MiSeq	16 samples	G9612A
	96 samples	G9612B
	96 auto	G9642B

SureSelect^{XT2} Reagent Kits

The SureSelect^{XT2} Reagent Kit enables pooling of DNA libraries prior to capture, resulting in a streamlined protocol requiring less hands-on time. This protocol provides high complexity libraries from either 100 ng or 1 µg of input DNA.

Description	Kit Size	Part Number
SureSelectXT2 Reagent Kit, HiSeq	16 samples 96 samples 96 auto	G9621A G9621B G9661B
SureSelectXT2 Reagent Kit, MiSeq	16 samples 96 samples 96 auto	G9622A G9622B G9662B

SureSelect^{QXT} Reagent Kits

The SureSelect^{QXT} Reagent Kit is a transposase-based library prep and target enrichment solution that eliminates the need for a Covaris. It enables a 90-minute hybridization step, the fastest in the market, resulting in sequencing-ready libraries in less than a day. This protocol enables the generation of libraries from 50 ng of input, providing compatibility with samples of limited availability.

Description	Kit Size	Part Number
SureSelectQXT Reagent Kit	16 samples 96 samples	G9681A G9681B
SureSelectQXT Reagent Kit, NextSeq	16 samples 96 samples	G9683A G9683B

SureSelect^{QXT} Library Prep for Whole Genome Sequencing

The SureSelect^{QXT} Reagent Kit is a transposase-based library prep solution that eliminates the need for a Covaris. It is compatible with 50 ng of input gDNA and requires only 1.5 hours of hands-on time. This enables the generation of high-quality, sequencing-ready libraries that provide more uniform coverage of the genome, especially in challenging AT-rich regions.

Description	Kit Size	Part Number
SureSelectQXT Library Prep Kit	16 samples 96 samples	G9682A G9682B
SureSelectQXT Library Prep Kit, NextSeq	16 samples 96 samples	G9684A G9684B

Target Enrichment Baits

For superior performance – Choose the most proven, trusted choice in target enrichment

The SureSelect Human All Exon V6 is a high performing design that targets updated content, including challenging regions, from the databases relevant to both the clinical and translational researchers. Optimized bait selection and boosting enables highly uniform coverage of the exome and each individual targeted exon.

Description	Kit Size	Part Number
SureSelectXT Human All Exon V6	16 samples 96 samples 96 auto	5190-8863 5190-8864 5190-8865
SureSelectXT Human All Exon V6+UTR	16 samples 96 samples 96 auto	5190-8881 5190-8882 5190-8883
SureSelectXT Human All Exon V6+COSMIC	16 samples 96 samples 96 auto	5190-9307 5190-9308 5190-9309
SureSelectXT Human All Exon V6 Plus 1	16 samples 96 samples 96 auto	5190-8866 5190-8867 5190-8868
SureSelectXT Human All Exon V6 Plus 2	16 samples 96 samples 96 auto	5190-8869 5190-8870 5190-8871
SureSelectXT2 Human All Exon V6	16 samples 96 samples	5190-8872 5190-8873
SureSelectXT2 Human All Exon V6+UTR	16 samples 96 samples 96 auto	5190-8884 5190-8885 5190-9306
SureSelectXT2 Human All Exon V6+COSMIC	16 samples 96 samples 96 auto	5190-9310 5190-9311 5190-9312
SureSelectXT2 Human All Exon V6 Plus 1	16 samples 96 samples 96 auto	5190-8875 5190-8876 5190-8877
SureSelectXT2 Human All Exon V6 Plus 2	16 samples 96 samples 96 auto	5190-8878 5190-8879 5190-8880

Clinical Research Exome V2

CREV2 provides excellent coverage across the entire exome with close to 90% of bases covered at 20x. But the real performance enhancement is in 5,109 genes that have been associated with diseases. In these genes, more than 95% of the bases are covered at 20x, which ensures that variants in these genes will be robustly detected.

The Clinically relevant content was extensively curated by Emory University and the Children's Hospital of Philadelphia and added to the Human All Exon V6 as a base, making it the most comprehensive medical exome solution in the market today. It is the only exome on the market to come with a list of included genes and their evidence for disease relevance.

Description	Kit Size	Part Number
SureSelectXT Clinical Research Exome V2	16 reactions 96 reactions 96 reactions auto	5190-9491 5190-9492 5190-9493
SureSelectXT Clinical Research Exome V2 Plus 1	16 reactions 96 reactions 96 reactions auto	5190-9494 5190-9495 5190-9496
SureSelectXT Clinical Research Exome V2 Plus 2	16 reactions 96 reactions 96 reactions auto	5190-9497 5190-9498 5190-9499
SureSelectXT2 Clinical Research Exome V2	16 reactions 96 reactions 96 reactions auto	5190-9500 5190-9501 5190-9502
SureSelectXT2 Clinical Research Exome V2 Plus 1	16 reactions 96 reactions 96 reactions auto	5190-9503 5190-9504 5190-9505
SureSelectXT2 Clinical Research Exome V2 Plus 2	16 reactions 96 reactions 96 reactions auto	5190-9506 5190-9507 5190-9508

SureSelect Focused Exome

The SureSelect Focused Exome, with approximately 4,800 disease-associated genes and regions, is a highly targeted design that enables analysis of only the disease-associated targets, providing deep coverage even on a benchtop sequencer.

Description	Kit Size	Part Number
SureSelectXT Focused Exome	16 samples 96 samples 96 auto	5190-7787 5190-7788 5190-7789
SureSelectXT Focused Exome Plus 1	16 samples 96 samples 96 auto	5190-7790 5190-7791 5190-7792
SureSelectXT2 Focused Exome	16 samples 96 samples 96 auto	5190-7797 5190-7798 5190-7799
SureSelectXT2 Focused Exome Plus 1	16 samples 96 samples 96 auto	5190-7800 5190-7806 5190-7807

Custom SureSelect DNA Target Enrichment

Agilent's market-leading SureSelect platform provides a complete portfolio of catalog and custom products, providing the flexibility that you need from discovery to follow-up studies. Agilent's custom solutions allow you to target your regions of interest. Using our free design software, SureDesign, you can quickly go from concept to completed design with ease

Description	Kit Size	Part Number
SureSelectXT Custom 1-499 kb	16 samples	5190-4806
	96 samples	5190-4807
	96 auto	5190-4808
	480 samples	5190-4809
SureSelectXT Custom 0.5-2.9 Mb	16 samples	5190-4816
	96 samples	5190-4817
	96 auto	5190-4818
	480 samples	5190-4819
SureSelectXT Custom 3-5.9 Mb	16 samples	5190-4826
	96 samples	5190-4827
	96 auto	5190-4828
	480 samples	5190-4829
SureSelectXT Custom 6-11.9 Mb	16 samples	5190-4836
	96 samples	5190-4837
	96 auto	5190-4838
	480 samples	5190-4839
SureSelectXT Custom 12-24 Mb	16 samples	5190-4896
	96 samples	5190-4897
	96 auto	5190-4898
	480 samples	5190-4899
SureSelectXT2 Custom 1-499 kb	16 samples	5190-4846
	96 samples	5190-4847
SureSelectXT2 Custom 0.5-2.9 Mb	16 samples	5190-4856
	96 samples	5190-4857
	480 samples	5190-4859
SureSelectXT2 Custom 3-5.9 Mb	16 samples	5190-4866
	96 samples	5190-4867
	480 samples	5190-4869
SureSelectXT2 Custom 6-11.9 Mb	16 samples	5190-4876
	96 samples	5190-4877
SureSelectXT2 Custom 12-24 Mb	16 samples	5190-4886
	96 samples	5190-4887
	96 auto	5190-4888
	480 auto	5190-4890

HaloPlex^{HS} Next Generation PCR

HaloPlex^{HS} target enrichment system is a high-sensitivity, amplicon-based targeted sequencing method based on the HaloPlex technology. It incorporates molecular barcodes into the DNA library, allowing for the identification of duplicate reads, hence significantly improving base calling accuracy even at low allelic frequencies (≥ 1%) or compared to conventional NGS methods.

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

SureSelect RNA Seq

Agilent's SureSelect Strand Specific RNA Library Preparation Kit is the highest sensitivity, strand-specific method for preparing libraries for whole transciptome seq or targeted RNA-Seq.

Description	Kit Size	Part Number
SureSelectXT RNA Direct	16 rxns 96 rxns	G7564A G7564B
SureSelect Strand Specific RNA Library	16 samples 96 samples	G9691A G9691B
SureSelectXT RNA Reagent Kit, ILM	16 samples 96 samples	G9692A G9692B

Custom SureSelect RNA Target Enrichment Baits

Agilent's custom solutions offer the only available method for target enrichment of RNA, allowing you to target your regions of interest using eArray, our free web portal.

Description	Kit Size	Part Number
SureSelect RNA Capture 1-499 kb	16 samples 96 samples 480 samples	5190-4934 5190-4935 5190-4937
SureSelect RNA Capture 0.5-2.9 Mb	16 samples 96 samples 480 samples	5190-4944 5190-4945 5190-4947
SureSelect RNA Capture 3-5.9 Mb	16 samples 96 samples 480 samples	5190-4954 5190-4955 5190-4957
SureSelect TE RNA Reagent Kit, HiSeq	16 samples 96 samples 480 samples	G9601A G9601B G9601C

SureSelect Methyl Seq

Agilent SureSelect^{XT} Human Methyl-Seq is the first comprehensive target enrichment system to enable researchers to focus on the regions where methylation is known to impact gene regulation. It targets the most complete content for methylation sequencing, including cancer tissue-specific DMRs, GENCODE promoters, CpG islands, shores and shelves ±4 kb, DNase I hypersensitive sites and RefGenes.

Description	Kit Size	Part Number
SureSelectXT Methyl-Seq Reagent Kit, HiSeq	16 samples 96 samples 480 samples	G9651A G9651B G9651C
SureSelectXT Human Methyl-Seq	16 samples 96 samples 480 samples	5190-4661 5190-4662 5190-4663
SureSelectXT Mouse Methyl-Seq Reagent Kit	16 samples	931052
SureSelectXT Rat Methyl-Seq Reagent Kit	16 samples 96 samples	931143 931144

ClearSeq Cancer and Constitutional Research Panels

The ClearSeq cancer research panels are catalog designs focused on targeted gene sets for detection of somatic variants in solid tumors and hematological cancers. Developed in collaboration with leading cancer research experts, these cancer research panels enable clinical researchers to confidently identify mutations, indels and gene fusions from FFPE and blood samples.

Developed in collaboration with leading medical genetics experts, the constitutional panels provide deep coverage of targets, enabling clinical researchers to confidently identify mutations, indels and CNVs.

Description	Kit Size	Part Number
ClearSeq Comprehensive Cancer XT	16 samples 96 samples 96 auto	5190-8011 5190-8012 5190-8013
ClearSeq Comprehensive Cancer XT Plus	16 samples 96 samples 96 auto	5190-8014 5190-8015 5190-8016
ClearSeq Cancer HS, Illumina	16 samples 96 samples	G9933A G9933B
ClearSeq AML HS, Illumina	16 samples 96 samples	G9963A G9963B
ClearSeq DNA Kinome XT	16 samples 96 samples 96 auto 480 samples	5190-4646 5190-4647 5190-4648 5190-4649
ClearSeq RNA Kinome XT	16 samples 96 samples 480 samples	5190-4801 5190-4802 5190-4803
ClearSeq Inherited Disease XT	16 rxn 96 rxn 96 rxn auto	5190-7518 5190-7519 5190-7520
ClearSeq Inherited Disease Plus XT	16 rxn 96 rxn 96 rxn auto	5190-7521 5190-7522 5190-7523
ClearSeq Inherited Disease XT2	16 rxn 96 rxn 96 rxn auto	5190-7524 5190-7525 5190-7526
ClearSeq Inherited Disease Plus XT2	16 rxn 96 rxn 96 rxn auto	5190-7527 5190-7528 5190-7529

OneSeq DNA Target Enrichment Baits

OneSeq allows for the combined detection of CNVs, SNVs, indels, and LOH in one NGS assay for constitutional disorders. The OneSeq 300 kb and 1 Mb backbones can detect genome-wide CNVs as small as 300 kb (25-30 kb in ClinGen regions) or 1 Mb, with LOH detection down to 5 Mb or 10 Mb, respectively. The CNV backbones can be combined with any Agilent catalog or custom panel for SNV and indel detection.

Description	Kit Size	Part Number
OneSeq Constitutional Research Panel	16 samples 96 samples 96 auto	5190-8702 5190-8703 5190-8704
OneSeq Reference DNA, Male	50 rxns	5190-8848
OneSeq Reference DNA, Female	50 rxns	5190-8850

OneSeq 300 kb CNV Backbone + Custom Panel

Description	Kit Size	Part Number
OneSeq 300 kb CNV Backbone + Custom (1-499 kb XT)	16 samples 96 samples 96 auto	5190-8705 5190-8887 5190-8888
OneSeq 300 kb CNV Backbone + Custom (0.5-2.9 Mb XT)	16 samples 96 samples 96 auto	5190-8889 5190-8890 5190-8891
OneSeq 300 kb CNV Backbone + Custom (3-5.9 Mb XT)	16 samples 96 samples 96 auto	5190-8892 5190-8893 5190-8894
OneSeq 300 kb CNV Backbone + Custom (6-11.9 Mb XT)	16 samples 96 samples 96 auto	5190-8895 5190-8896 5190-8897

OneSeq: Tailored for Your Needs

	OneSeq High Resolution	OneSeq Low Resolution
CNV resolution genome-wide	300 kb	1 Mb
CNV resolution in ClinGen regions	25-50 kb	1 Mb
LOH	5 Mb	10 Mb
SNV & Indels	Combine OneSeq CNV backbone with any SureSelect exome, ClearSeq gene panel or SureSelect custom region	Combine OneSeq CNV backbone with any SureSelect exome, ClearSeq gene panel or SureSelect custom region
Sequencer recommendation	High or medium throughput sequencers	High, medium or benchtop sequencers
Region targeted by CNV backbone	12 Mb	2.7 Mb

OneSeq 1 Mb CNV Backbone + Custom Panel

Description	Kit Size	Part Number
OneSeq 1 Mb CNV Backbone + Custom (1-499 kb XT)	16 samples 96 samples 96 auto	5190-9462 5190-9463 5190-9464
OneSeq 1 Mb CNV Backbone + Custom (0.5-2.9 Mb XT)	16 samples 96 samples 96 auto	5190-9465 5190-9466 5190-9467
OneSeq 1 Mb CNV Backbone + Custom (3-5.9 Mb XT)	16 samples 96 samples 96 auto	5190-9468 5190-9469 5190-9470
OneSeq 1 Mb CNV Backbone + Custom (6-11.9 Mb XT)	16 samples 96 samples 96 auto	5190-9471 5190-9472 5190-9473
OneSeq 1 Mb CNV Backbone + Custom (12-24 Mb XT)	16 samples 96 samples 96 auto	5190-9474 5190-9475 5190-9476

NGS Data Analysis Software

SureCall Software

Reduce time to results from days to hours without complex IT infrastructure or special hardware. With SureCall, you can go from alignment of raw data to categorization and annotation of mutations in three simple steps.

SureCall software supports four different types of analysis: Single Sample, Tumor-Normal, Trio and OneSeq CNV and Mutation Analysis.

Alissa Clinical Informatics

Improve operational excellence with Alissa Clinical Informatics, an integrated software platform that streamlines your data analysis and variant assessment workflows—providing comprehensive support from raw reads to draft report. Meet rising assay volumes and deliver results under strict turnaround times.

Sample Quality Control

Agilent 2100 Bioanalyzer System

Agilent 2100 Bioanalyzer System

The Agilent 2100 Bioanalyzer System is an established automated electrophoresis tool for DNA and RNA quality control and ensures your sample is of the highest integrity in only 30-40 minutes.

Description	Kit Size	Part Number
2100 Bioanalyzer Instrument	1 unit	G2939BA
2100 Expert SW Laptop Bundle	1 PC	G2953CA

Bioanalyzer DNA Kits and Reagents

With the Agilent DNA kits, the 2100 Bioanalyzer system enables you to quickly check DNA sizing, quality, and sample quantity of PCR reactions, restriction digests, or fragmented DNA. Recommended by next generation sequencing vendors.

Description	Kit Size	Part Number
Agilent DNA 1000 Kit	for 300 samples	5067-1504
Agilent DNA 1000 Reagents	for 25 chips	5067-1505
Agilent DNA 7500 Kit	for 300 samples	5067-1506
Agilent DNA 7500 Reagents	for 25 chips	5067-1507
Agilent DNA 12000 Kit	for 300 samples	5067-1508
Agilent DNA 12000 Reagents	for 25 chips	5067-1509
Agilent High Sensitivity DNA Kit	for 110 samples	5067-4626
Agilent High Sensitivity DNA Reagents	for 10 chips	5067-4627

Bioanalyzer RNA Kits and Reagents

The Agilent RNA kits and RNA Integrity Number (RIN) are widely accepted for RNA quality assessment. Perform fast, easy, precise integrity checks and sample quantification before any RNA-dependent application.

Description	Kit Size	Part Number
Agilent RNA 6000 Nano Kit	for 300 samples	5067-1511
Agilent RNA 6000 Nano Reagents	for 25 chips	5067-1512
Agilent RNA 6000 Nano Ladder	for 25 chips	5067-1529
Agilent RNA 6000 Pico Kit	for 275 samples	5067-1513
Agilent RNA 6000 Pico Reagents	for 25 chips	5067-1514
Agilent RNA 6000 Pico Ladder	for 25 chips	5067-1535
Agilent Small RNA Kit	for 275 samples	5067-1548
Agilent Small RNA Reagents	for 25 chips	5067-1549
Agilent Small RNA Ladder	for 25 chips	5067-1550

Agilent 4200 TapeStation System

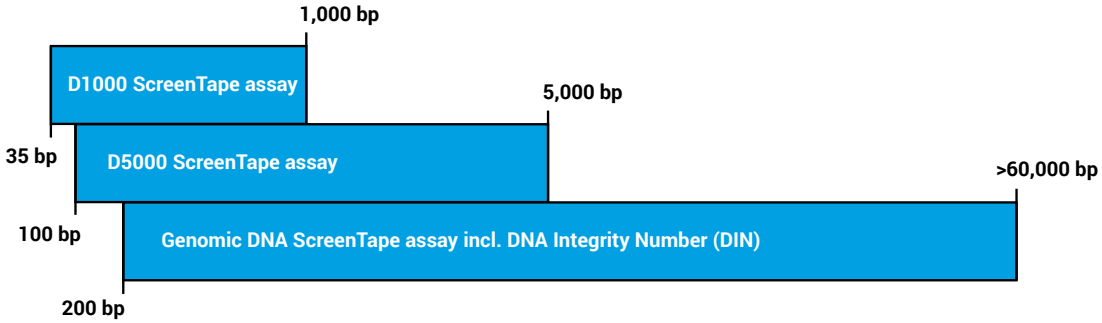
The Agilent 4200 TapeStation system provides true end-to-end sample quality control within any next generation sequencing, microarray or qPCR workflow. The system offers walk away operation with fully automated sample processing. For the complete DNA and RNA assay portfolio, analyze 1-96 samples at a constant cost per sample. Ready-to-use ScreenTape technology enables ultimate flexibility for switching between assays in no time.

Agilent 4200 TapeStation System

Description	Kit Size	Part Number
Agilent 4200 TapeStation System	1 system	G2991AA

TapeStation DNA Consumables and Reagents

The DNA ScreenTape assays for the Agilent 4200 TapeStation system are ideal for quality control of input genomic DNA and downstream applications, e.g. library preparation for next generation sequencing. Select the size range appropriate for the desired application.



Genomic DNA Consumables and Reagents

The Genomic DNA ScreenTape assay enables automated, reproducible and digital assessment of genomic DNA with respect to size, concentration and quality (DNA Integrity Number, DIN).

Description	Kit Size	Part Number
Genomic DNA ScreenTape	for 105 samples	5067-5365
Genomic DNA Reagents	for 105 samples	5067-5366

DNA Consumables and Reagents

Description	Kit Size	Part Number
D1000 ScreenTape	for 112 samples	5067-5582
D1000 Reagents	for 112 samples	5067-5583
D1000 Ladder	10 µL	5067-5586
D1000 Sample Buffer	400 µl	5067-5602
High Sensitivity D1000 ScreenTape	for 112 samples	5067-5584
High Sensitivity D1000 Reagents	for 112 samples	5067-5585
High Sensitivity D1000 Ladder	20 µL	5067-5587
High Sensitivity D1000 Sample Buffer	300 µl	5067-5603

DNA Consumables and Reagents

Description	Kit Size	Part Number
D5000 ScreenTape	for 105 samples	5067-5588
D5000 Reagents	for 105 samples	5067-5589
D5000 Ladder	10 µL	5067-5590
High Sensitivity D5000 ScreenTape	for 105 samples	5067-5592
High Sensitivity D5000 Reagents	for 105 samples	5067-5593
High Sensitivity D5000 Ladder	20 µL	5067-5594

RNA Consumables and Reagents

The High Sensitivity RNA and RNA ScreenTape assays provide a fully automated, efficient and reliable method for RNA characterization and quality assessment. The RNA integrity number equivalent (RIN^e) provides an instant and objective evaluation of total RNA degradation of eukaryotic and prokaryotic samples.

Description	Kit Size	Part Number
RNA ScreenTape	for 112 samples	5067-5576
RNA ScreenTape Sample Buffer	for 112 samples	5067-5577
RNA ScreenTape Ladder	10 µL	5067-5578
High Sensitivity RNA ScreenTape	for 112 samples	5067-5579
High Sensitivity RNA ScreenTape Sample Buffer	for 112 samples	5067-5580
High Sensitivity RNA ScreenTape Ladder	10 µL	5067-5581

NGS FFPE QC Kit

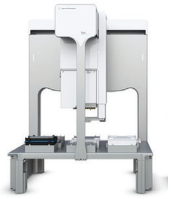
The Agilent NGS FFPE QC kit is a qPCR-based assay that enables functional DNA quality assessment of input DNA prior to preparation of next generation sequencing libraries obtained from challenging sources such as formalin-fixed, paraffin-embedded specimens.

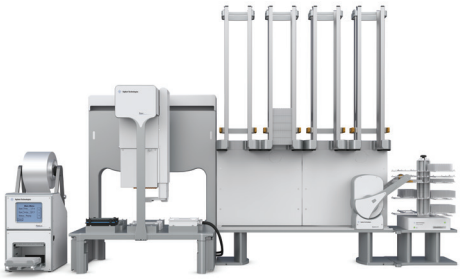
Description	Kit Size	Part Number
Agilent NGS FFPE QC Kit	16 samples 96 samples	G9700A G9700B

Automation

Agilent's NGS Automation Solutions greatly increase sample throughput and reproducibility. With validated protocols, Agilent offers a plug-and-play solution for the rapid processing of targeted NGS samples. Agilent's NGS Automation Solutions maximize throughput, walk-away time and processing efficiency.

Description	Kit Size	Part Number
Bravo NGS (Option A)	1 unit	G5573AA
NGS Workstation (Option B)	1 unit	G5574AA
PlateLoc Thermal Microplate Sealer	1 unit	G5585GA





Agilent Bravo NGS (Option A)

High throughput and improved reproducibility with a small footprint

- Agilent Bravo Automated Liquid Handling Platform
- Agilent Bravo accessories for heating, cooling, shaking, and magnetic separation

Agilent NGS Workstation (Option B)

High throughput and improved reproducibility with more walkaway time

- Agilent Bravo NGS (Option A)
- Agilent BenchCel 4R Microplate Handler
- Agilent Labware MiniHub
- Agilent PlateLoc Thermal Microplate Sealer

Boost Sample Throughput 10x

with an NGS Workstation!

PCR Amplification

SureCycler 8800

The SureCycler 8800 Thermal Cycler provides users with a complete package of market leading features and functionality. This PCR machine can run even the most complex thermal cycling techniques including time and temperature increments, touchdown PCR, and temperature gradients.

Agilent SureCycler 8800

Description	Kit Size	Part Number
SureCycler 8800 thermal cycler	1 unit	G8800A
96-well module	1 module	G8810A
384-well module D	1 module	G8820A

PCR Enzymes

Description	Kit Size	Part Number
Herculase II Fusion DNA Polymerase	40 rxn 200 rxn 400 rxn	600675 600677 600679
PfuUltra II Hotstart PCR Master Mix	100 rxn 400 rxn	600850 600852
PfuUltra II Fusion Hotstart DNA Polymerase	40 rxn 200 rxn 400 rxn	600670 600672 600674
PAQ5000 Hotstart DNA Polymerase	500 u 1000 u 5000 u	600860 600862 600864
PAQ5000 2X PCR Master Mix	100 rxn 400 rxn	600870 600872
Paq5000 DNA Polymerase	500 u 1000 u 5000 u	600680 600682 600684

QPCR Amplification

AriaMx Real-Time PCR System

The AriaMx Real-Time PCR System is a fully integrated, quantitative PCR amplification, detection, and data analysis system. The system design combines a state-of-the-art thermal cycler, an advanced optical system with an LED excitation source, and complete data analysis software.

Description	Kit Size	Part Number
AriaMx Real-Time PCR System	1 system	G8830A

AriaMx

AriaMx Modular Optical Cartridges

Description	Kit Size	Part Number
SYBR/FAM Optical Cartridge	1 pack	G8830-67001* (Option 101)
ROX Optical Cartridge	1 pack	G8830-67002* (Option 102)
HEX Optical Cartridge	1 pack	G8830-67003* (Option 103)
CY3 Optical Cartridge	1 pack	G8830-67004* (Option 104)
CY5 Optical Cartridge	1 pack	G8830-67005* (Option 105)
ATTO425 Optical Cartridge	1 pack	G8830-67006* (Option 106)

*Use part numbers to upgrade post instrument purchase

Brilliant III Master Mix

Description	Kit Size	Part Number
Brilliant III Ultra-Fast QPCR Master Mix	400 rxn 10 x 400 rxn	600880 600881
Brilliant III Ultra-Fast QRT-PCR Master Mix	400 rxn 10 x 400 rxn	600884 600885
Brilliant III Ultra-Fast High ROX QPCR Master Mix	400 rxn 10 pack	600888 600899
Brilliant III Ultra-Fast Low ROX QPCR Master Mix	400 rxn 10 pack	600890 600898
Brilliant III Ultra-Fast SYBR® Green QPCR Master Mix	400 rxn 10 x 400 rxn	600882 600883
Brilliant III Ultra-Fast SYBR® Green QRT-PCR Master Mix	400 rxn 10 x 400 rxn	600886 600887
Brilliant III Ultra-Fast SYBR® Green High ROX QPCR Master Mix	400 rxn 10 pack	600889 600904

Data Sheet

Agilent
Trusted Answers

Agilent Magnis NGS Prep System

Quality NGS libraries with walk-away automation

The Agilent Magnis NGS Prep System (Figure 1) produces sequencing-ready libraries compatible with Illumina platforms. It is comprised of an instrument, reagents, and pre-configured protocols. The system is fully automated to deliver eight libraries in under 9 hours, using between 10 to 200 ng of sheared genomic DNA input. The quality of the output libraries is supported by the precision and reliability of the system.

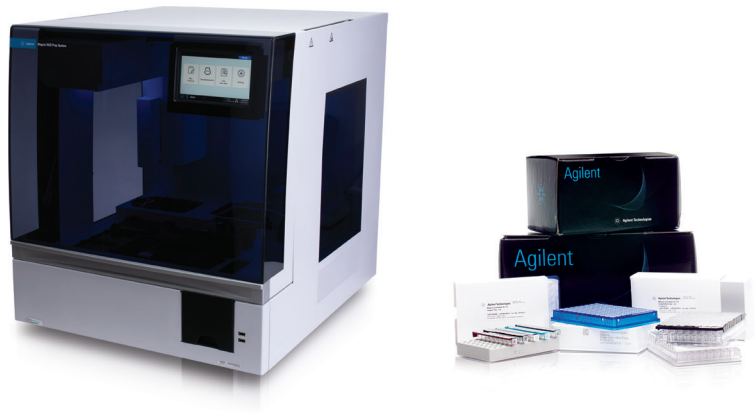
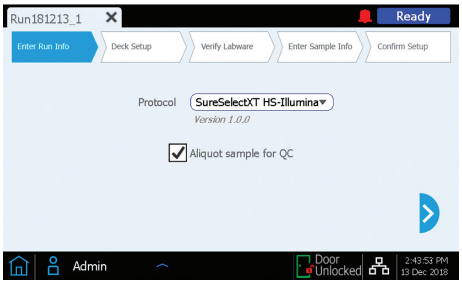
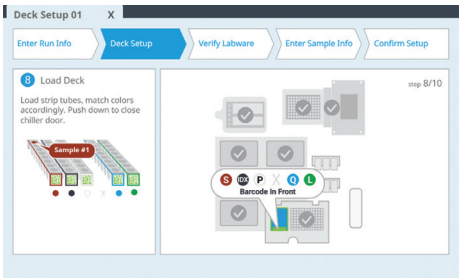
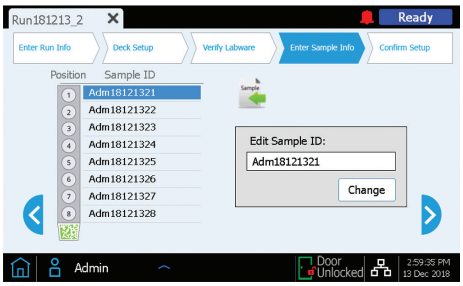


Figure 1. The Agilent Magnis NGS Prep System is fully automated and optimized for ease of use and reproducible NGS libraries.

The setup wizard guides you to prepare for a run in 5 minutes by loading the sheared genomic DNA, prepackaged SureSelect XT HS reagents, and plastic consumables onto the Magnis System deck (Figure 2). The Magnis System performs all library preparation and hybrid capture-based target enrichment steps (Figure 3), including PCR amplification, using the integrated thermocycler. After setup confirmation you can walk away from the Magnis System during library preparation, and return to collect the libraries from the completed run approximately 9 hours later.







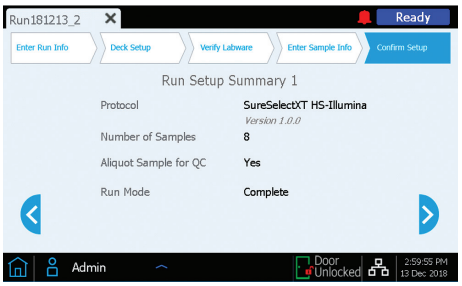


Figure 2. Magnis run setup: The wizard guides you through the run setup steps, including entering run information, configuring deck setup, verifying labware, entering sample information, and confirming setup.

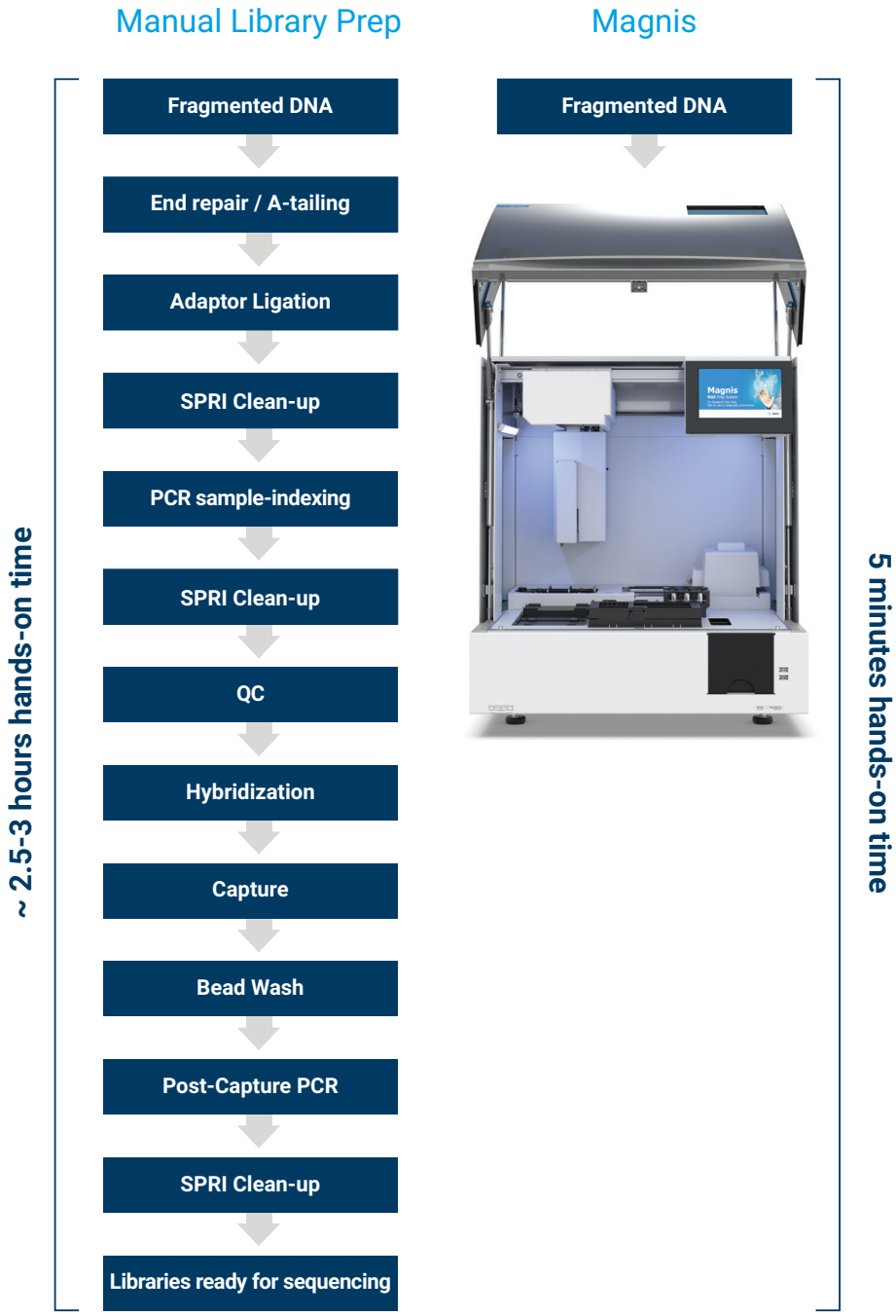


Figure 3. The Magnis System fully automates NGS library preparation using a built-in thermocycler, shaker, heater, and magnet, all in a compact footprint to save valuable lab space.

The Magnis System harnesses the precision of the liquid handling technology combined with optimized protocols to reduce operator variability and human error. In addition, the built-in UV lamp removes inter-run cross contamination.* As a result, the libraries produced by the Magnis System demonstrate excellent consistency, illustrated by the reproducibility of output libraries from the following study (Figure 4).

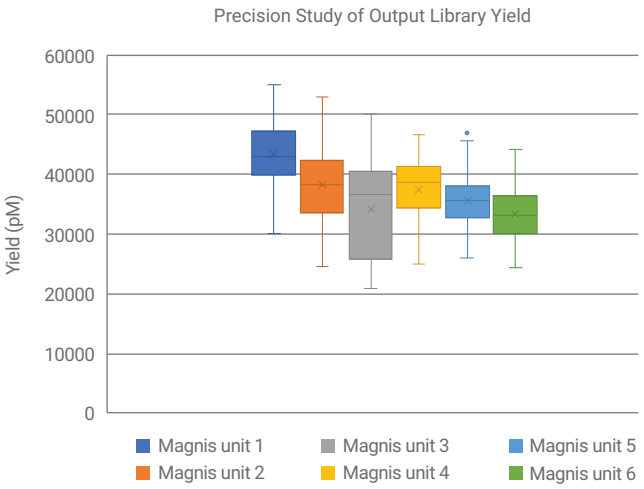


Figure 4. The Magnis System library yield reproducibility study: From each of the six Magnis instrument, 50 ng of gDNA, extracted from HapMap NA18507 and mechanically sheared, is included in each of the five runs for the ClearSeq comprehensive cancer panel. Concentration of the output libraries is measured by TapeStation 4200 system, overall coefficient of variation from 240 libraries is 17.9%.

The Magnis NGS Prep System uses the industry-leading SureSelect XT HS library preparation and hybrid capture target enrichment solution. The SureSelect XT HS reagent kit demonstrates excellent capture efficiency, and compatibility with formalin-fixed paraffin embedded (FFPE) samples (Figure 5). Using SureSelect chemistry coupled with automation-enabled precision, the Magnis instrument accepts DNA input as low as 10 ng and as high as 200 ng extracted from blood, freshly frozen tissue, and FFPE samples. This yields quality libraries across target sizes from 1 kb to whole exome.

The Magnis System SureSelect XT HS kit includes all necessary reagents and materials to produce final libraries. You can order catalog or custom target enrichment panels designed within the SureDesign portal. The run protocol is preconfigured to balance efficiency and performance, and allows you to modify or optimize some parameters based on your specific needs. With a total run time of approximately 9 hours, the Magnis System delivers up to 40 libraries per week of regular workdays.

*Supported from R&D validation data.

The Magnis NGS Prep System is a robust solution, supported by the industry-leading Agilent service team. With ease of use and consistency in performance, the Magnis workflow enables any lab to prepare NGS libraries with confidence.

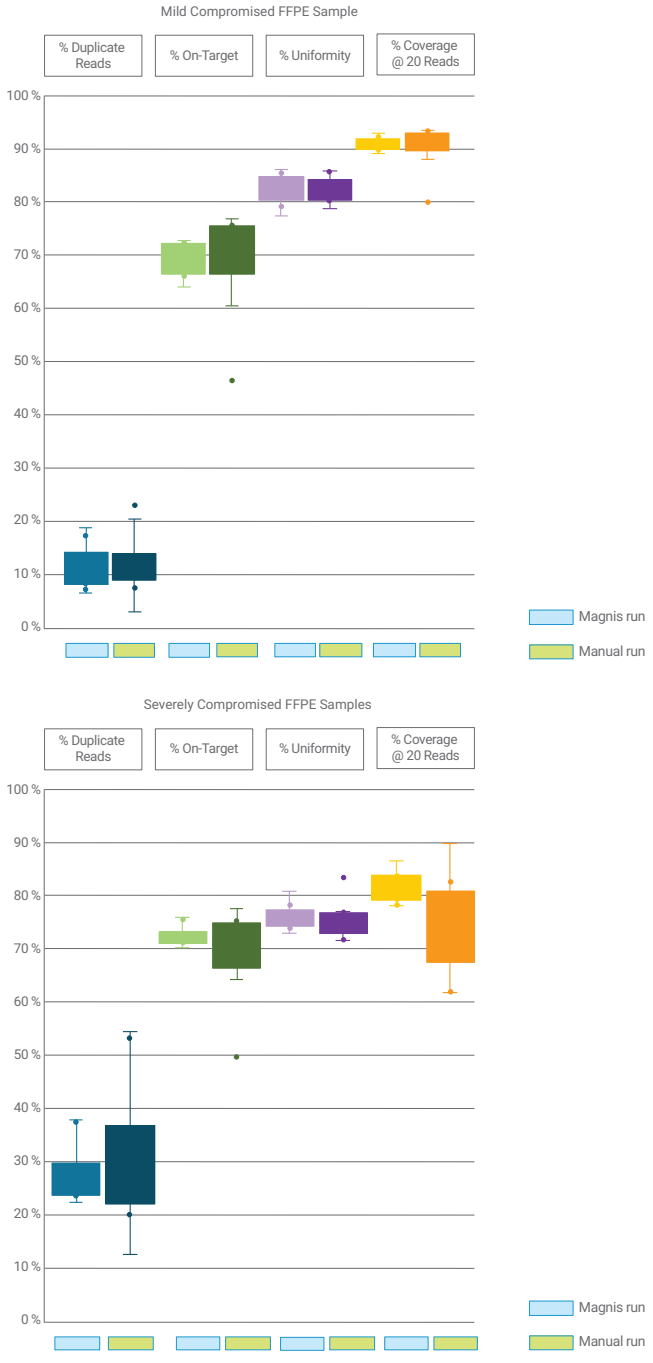


Figure 5. Performance of libraries generated by the Magnis System compared with those by manual prep: Mildly compromised and severely compromised FFPE samples, duplicates of 10 ng of gDNA, extracted and mechanically sheared, are included in each of the five Magnis runs for custom design panel of 118 kb size. Sequencing metrics are compared between these two methods for each of the four categories.

System specification

RUO and CE-IVD (Europe only) versions of the Magnis System are available.

Depth	720 mm
Width	620 mm
Height	710 mm
Line Voltage	100-240 V ± 10%
Line Frequency	50/60 Hz ± 5%
Average/Maximum Power Consumption	450 W / 900 W
Weight	100 kg
Operating Temperature Range	15-25 °C
Operating Humidity Range	30-70% RH

Ordering Information

Product	Catalog Number
MagnisDx NGS Prep System (CE-IVD version)	K1007AA
Magnis NGS Prep System (RUO version)	G9710AA
Magnis SureSelect XT HS, 1 - 499 kb, ILM,32 rxn (RUO)	G9731A
Magnis SureSelect XT HS, 1 - 499 kb, ILM, 96 rxn (RUO)	G9731B
Magnis SureSelect XT HS, 0.5 - 2.9 Mb, ILM, 32 rxn (RUO)	G9732A
Magnis SureSelect XT HS, 0.5 - 2.9 Mb, ILM, 96 rxn (RUO)	G9732B
Magnis SureSelect XT HS, 3 - 5.9 Mb, ILM, 32 rxn (RUO)	G9733A
Magnis SureSelect XT HS, 3 - 5.9 Mb, ILM, 96 rxn (RUO)	G9733B
Magnis SureSelect XT HS, 6 - 11.9 Mb, ILM, 32 rxn (RUO)	G9734A
Magnis SureSelect XT HS, 6 - 11.9 Mb, ILM, 96 rxn (RUO)	G9734B
Magnis SureSelect XT HS, 12 - 24 Mb, ILM,32 rxn (RUO)	G9735A
Magnis SureSelect XT HS, 12 - 24 Mb, ILM, 96 rxn (RUO)	G9735B
Magnis SureSelect XT HS, exome v7, ILM, 32 rxn (RUO)	G9771A
Magnis SureSelect XT HS, exome v7, ILM, 96 rxn (RUO)	G9771B
Magnis SureSelect XT HS, No Probes, ILM, 96 rxn (RUO)	G9730B
Magnis Automation tips (50 PKs)	G9477G

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Россия (495)268-04-70
Киргизия (996)312-96-26-47
Казахстан (7172)727-132

afr@nt-rt.ru || https://agilent.nt-rt.ru/