

# Agilent Bravo NGS Workstation with On-Deck Thermal Cycler (ODTC) and Agilent SureSelect XT HS2 DNA Reagent Kit

## Key Attributes

### Productivity

Increase walkaway time for higher-throughput, automated sample processing eliminating up to 13 touchpoints

### Efficiency

Process large numbers of samples through consistent sample handling for reproducible data and less sample reruns

### Performance

Generate high-quality libraries with as little as 10 ng of DNA input from intact or highly degraded formalin-fixed, paraffin-embedded (FFPE) samples through proven SureSelect XT HS2 performance

### Comprehensive workflow

Improve workflow optimization with a single-vendor solution when you run SureSelect reagents on the Bravo NGS workstation

### Flexibility

Experience the flexibility of Bravo's open system serving a broad range of application needs and allowing for automation, customization, and optimization of your genomic workflows

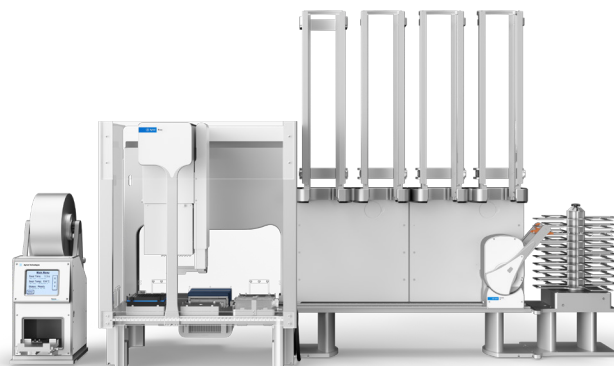


Figure 1. Agilent Bravo NGS workstation with on-deck thermal cycler.

## Introduction

The Agilent Bravo NGS workstation is a trusted and proven liquid handling platform designed for medium- to high-throughput sample processing that offers choice and flexibility. Bravo automation reduces time-consuming processes to increase workflow consistency and lab efficiency for applications ranging from cell culture assays to end-point PCR and NGS, the foundational technologies for genomics labs.

The addition of the Bravo NGS workstation with on-deck thermal cycler (ODTC) is the portfolio's next step forward, further enhancing NGS library prep convenience and efficiency. The optional ODTC allows for more walkaway time with the same flexibility of the open Bravo system, when used with preprogrammed SureSelect protocols ensures consistent and reliable performance across all samples. With the introduction of Bravo ODTC and continued development of SureSelect automation protocols, the Agilent investment in this versatile platform demonstrates our commitment to the research and clinical communities.



**Figure 2.** Agilent SureSelect library prep and target enrichment reagent kits.

**Table 1.** Manual versus Bravo samples per week and maximum walkaway time for whole-exome sequencing and target enrichment applications.

Application	Samples per Week			Maximum Walkaway Times		
	Manual	Bravo B	Bravo B+	Manual	Bravo B	Bravo B+
Whole-Exome Sequencing (Library Prep only)	96	960	960	1 hour	2 hours	Up to 5 hours
Target Enrichment	16-48	192	192	1 hour	1 hour	Up to 7 hours

## Productivity

Running the SureSelect protocol on the Bravo NGS workstation with ODTC decreases the number of touchpoints for the user, greatly increasing walkaway time. When running the workstation with the ODTC, the longest walkaway time for the user expands from 125 minutes to over five hours for library prep and from 60 minutes to up to seven hours for target enrichment using the SureSelect XT HS2 DNA protocol. Longer walkaway times increase user productivity allowing more focus on other important matters in and out of the lab.

## Efficiency

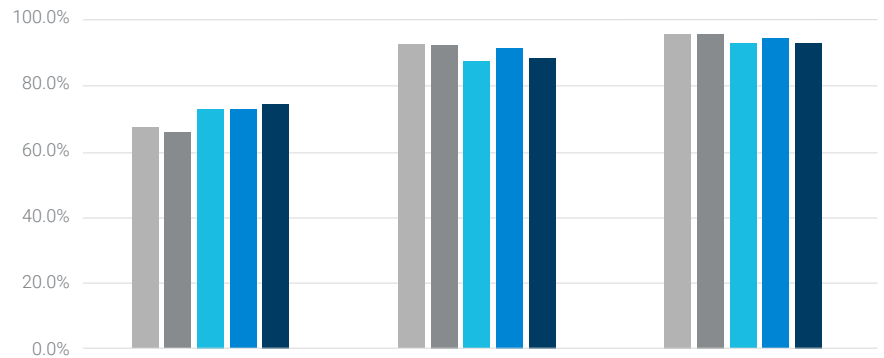
Increase sample throughput and maintain data quality with Bravo as compared to manual sample handling. Automation keeps sample processing consistent across large numbers of samples, resulting in reliable, quality data outputs.

## Performance

SureSelect reagents have been optimized for automation on the Bravo NGS workstation. Agilent protocols that support the ODTC on the Bravo platform have been thoroughly tested and are supported by our experienced team of field applications scientists.

## Comprehensive Workflow

Agilent continues to invest in enhancing our automation solutions for the NGS workflow. Pre-programmed SureSelect protocols minimize setup time of the automated assay. Adding the ODTC to the Bravo platform helps to further streamline library preparation and target enrichment. Along with sample quality control solutions such as the Agilent TapeStation system, this ensures optimal preparation of libraries from precious samples.



	Percentage Reads On-Target	Percent Targeted Bases Covered at Half the Mean or Greater	30x Targeted Base Coverage
Manual	67.2%	92.5%	95.7%
Magnis	65.6%	92.4%	95.7%
Bravo A	72.8%	87.3%	92.8%
Bravo B	72.6%	91.4%	94.1%
Bravo B+ ODTC	74.3%	88.4%	92.9%

**Figure 3.** Consistent and robust SureSelect XT HS2 DNA performance across manual and automated preparation methods.

Platform	Input	N=	Sequence	Coverage/Gb
Manual	200ng	8	2x150bp	150x/6Gb
Magnis	200ng	4		
Bravo A	200ng	8		
Bravo B	200ng	8		
Bravo B+ ODTC	200ng	8		

200ng HapMap DNA was used to make libraries following the Agilent SureSelect XT HS2 protocol. Individual libraries were then enriched with SureSelect Human All Exon V8, sequenced 2x150bp, and normalized to 150x/6Gb theoretical coverage. All platforms show an average of 8 samples except for Magnis which has N = 4.

## Flexibility

The Bravo NGS workstation is an open system that allows the user to adjust and optimize any automated protocol. The liquid handler with the optional ODTc comes preconfigured and preprogrammed to run with SureSelect XT HS2 DNA protocols. The SureSelect protocol can be further optimized for local, environmental, and labware considerations. The Bravo can even be programmed to run non-Agilent reagent kits and other genomics workflows. These custom protocols can be made to order, as needed, with expert support from Agilent field application scientists.

**Table 2.** Ordering information for the Agilent Bravo NGS workstation and reagent kit options.

Part Number	Product Name and Description
<b>Agilent Bravo NGS workstation and ODTc</b>	
G55474AA	Bravo NGS workstation
Options 006, 008	Bravo NGS workstation with ODTc (006) and Software (008)
H5949A	Required Supplemental installation service for ODTc install
<b>Upgrades for Existing Bravo NGS workstation</b>	
G5269GA	ODTc Upgrade kit for existing Bravo NGS workstation
<b>Agilent SureSelect XT HS2 DNA</b>	
<b>Library Prep and Target Enrichment</b>	
G9981A	SureSelect XT HS2 DNA Reagent kit with Index Primer pairs 1 to 16, 16 reactions
G9982A	SureSelect XT HS2 DNA Starter kit with Index Primer pairs 1 to 16, 16 reactions
G9983A	SureSelect XT HS2 Reagent kit with Index Primer pairs 1 to 96, 96 reactions
G9983B	SureSelect XT HS2 DNA Reagent kit with Index Primer pairs 97 to 192, 96 reactions
G9983C	SureSelect XT HS2 DNA Reagent kit with Index Primer pairs 193 to 288, 96 reactions
G9983D	SureSelect XT HS2 DNA Reagent kit with Index Primer pairs 289 to 384, 96 reactions
G9984A	SureSelect XT HS2 DNA Reagent kit with AMPure XP/Streptavidin beads and Index Primer pairs 1 to 96, 96 reactions
G9984B	SureSelect XT HS2 DNA Reagent kit with AMPure XP/Streptavidin beads and Index Primer pairs 97 to 192, 96 reactions
G9984C	SureSelect XT HS2 DNA Reagent kit with AMPure XP/Streptavidin beads and Index Primer pairs 193 to 288, 96 reactions
G9984D	SureSelect XT HS2 DNA Reagent kit with AMPure XP/Streptavidin beads and Index Primer pairs 289 to 384, 96 reactions
G9985A	SureSelect XT HS2 DNA Library Preparation kit with Index Primer pairs 1 to 96, 96 reactions
G9985B	SureSelect XT HS2 DNA Library Preparation kit with Index Primer pairs 97 to 192, 96 reactions
G9985C	SureSelect XT HS2 DNA Library Preparation kit with Index Primer pairs 193 to 288, 96 reactions
G9985D	SureSelect XT HS2 DNA Library Preparation kit with Index Primer pairs 289 to 384, 96 reactions
G9987A	SureSelect XT HS2 DNA Target Enrichment kit, 12 hybridizations
<b>Primer Pairs</b>	
5191-5687	SureSelect XT HS V2 Index Primer 1 to 16. SureSelect XT HS V7 Plus 2, 16 reactions
5191-5688	SureSelect XT HS V2 Index Primer pairs 1 to 96. SureSelect Pre-capture Custom Tier 3, 30 hybridizations
5191-5689	SureSelect XT HS2 Index Primer pairs 97 to 192 for ILM (pre-PCR)
5191-5690	SureSelect XT HS V2 Index Primer pairs 289 to 384. SureSelect XT HS V2 Index Primer pairs 1 to 16
<b>Enzymatic Fragmentation kits</b>	
5191-6764	SureSelect Enzymatic Fragmentation kit, 96 reactions, auto
5191-4079	SureSelect XT HS Enzymatic Fragmentation kit, 16 reactions
5191-4080	SureSelect XT HS and XT Low Input Enzymatic Fragmentation kit, 96 reactions

[www.agilent.com/genomics/ngs\\_automation](http://www.agilent.com/genomics/ngs_automation)

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