

SYSTEMS



# MassARRAY<sup>®</sup> System

Targeted Molecular Testing



With exception of the MassARRAY Dx and MassARRAY SARS-CoV-2 Panel, all other products are For Research Use Only. Not for use in diagnostic procedures.

**Agena<sup>®</sup>**  
BIOSCIENCE

# Behind Every Genetic Analysis There is a Trusted Platform

The MassARRAY® System is an open platform that simplifies the genetic testing process. Placed at the center of your molecular workflow, you can optimize your laboratory efficiency. With a wide variety of applications, including PGx, oncology, sample identification, and custom panels, the MassARRAY system is an ideal solution to meet your testing needs.





## Maximum Productivity

Sample to data in a single day. Run from one to thousands of samples with varying applications on a single system.



## Simple Workflow

Combining automation, minimal hands-on time and on-board data analysis, the MassARRAY System delivers a standardized workflow covering a suite of applications.



## Broad Multiplexing Range

Target up to 50 specific DNA variants in a single PCR reaction and run up to 96 or 384 samples on a single SpectroCHIP® Array, allowing you to test hundreds of mutations.



## Advanced Biomarker Detection

Detect SNPs, insertions, deletions, translocations, copy number variation, and methylation markers with one system. Achieve sensitivity down to 0.1% allele frequency with minimal DNA input.



## Minimal Bioinformatics Analysis

Simplified data analysis and reporting. No complex bioinformatics required.

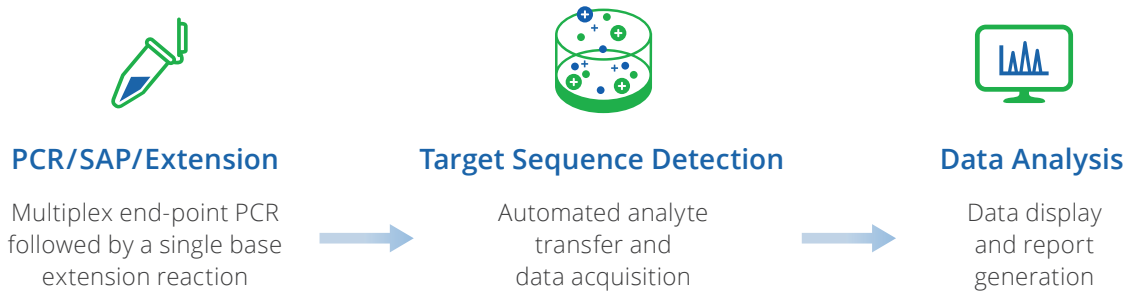


## Cost-Effective Testing

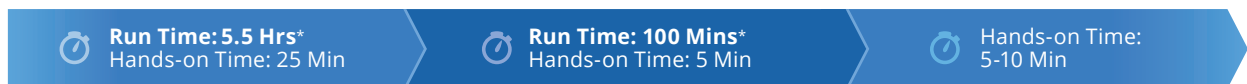
With affordable upfront cost and minimal reagent waste, the MassARRAY is an efficient laboratory tool.

## SINGLE SHIFT WORKFLOW

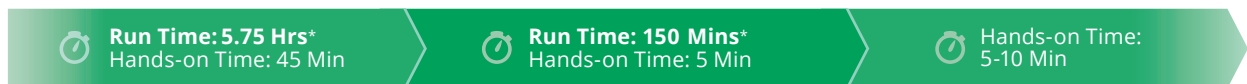
The MassARRAY System workflow couples mass spectrometry with end-point PCR, enabling highly multiplexed reactions under universal cycling conditions. After nucleic acid extraction, approximately 10-40ng of sample advances through a simple workflow with 3 easy steps:



### 96 FORMAT



### 384 FORMAT

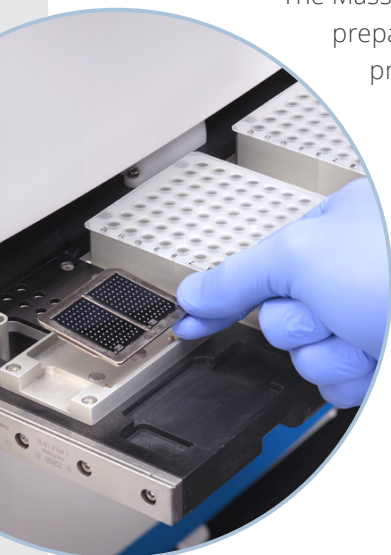


\* Workflow time may vary depending on set up, chemistry and acquisition settings.

## FLEXIBLE CHEMISTRY & AUTOMATED DETECTION

Maintaining an efficient lab workflow that ensures the integrity of results is essential to any laboratory.

The MassARRAY System empowers high-throughput testing by automating key aspects of sample preparation while allowing laboratories the flexibility to customize their extraction and sample preparation protocols.

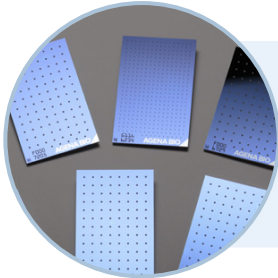


- **Automated Sample Transfer** – An internal liquid handler within the sealed system seamlessly performs sample conditioning and transfer to SpectroCHIP Arrays, reducing carry-over contamination.
- **Continuous Sample Loading** – Enables a flexible workflow, minimizes downtime between batches, and optimizes throughput without risking sample integrity.
- **On-Board Stability** – An integrated plate cooler maintains a steady-state temperature, preserving the integrity of your PCR samples during daily or overnight runs.



## TRUSTED TECHNOLOGY OFFERING A UNIQUE SOLUTION

The MassARRAY System uses matrix-assisted laser desorption/ionization - time of flight (MALDI-TOF) mass spectrometry for the precise detection of DNA molecules. Genetic variants are distinguished by analysis of their individual mass, eliminating the need for fluorescence or labeling.

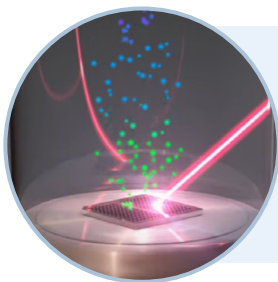
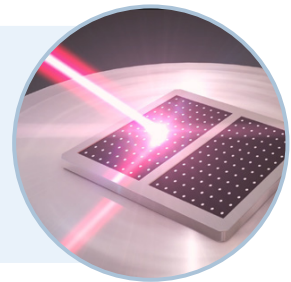


### SpectroCHIP® Preparation

A small amount of DNA analyte is transferred to a single pad on a disposable SpectroCHIP® where it crystalizes with the matrix.

### DNA Ionization

SpectroCHIP Arrays with crystalized analytes are then transferred to the MassARRAY MALDI-TOF analyzer, where they are irradiated by a laser, inducing desorption and ionization of molecules within a vacuum chamber.

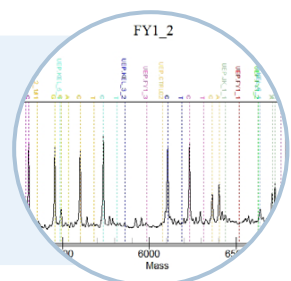


### DNA Separation

The positively charged DNA ions are accelerated and migrate through the vacuum tube towards a highly sensitive detector at different speeds dependent on the mass of the ions, leading to different arrival times (time of flight).

### DNA Analysis

Using the arrival time of the individual ionized DNA analytes, the MassARRAY System determines the mass and displays a mass spectrum identifying the different genetic targets.



*"The main advantages of the MassARRAY System are ease of use, quick turnaround time, and ease of onboarding... With the Agena MassARRAY, we can go live with an assay in a short period of time."*

– Dr. Castro-Echeverry *Baylor Scott & White Health*



## BROAD MULTIPLEXING ABILITY

The MassARRAY system and exclusive SpectroCHIP consumable allow you to genotype up to 50 genetic variants on each pad:

**up to 19,200\* genetic variants across the entire chip.**

The MassARRAY is an ideal system for targeting 10s-100s of genetic markers per sample. The SpectroCHIP features 96 or 384 inert matrix pads evenly spaced across an array. Unique DNA analyte mixtures can be deposited onto any pad, enabling side-by-side testing of different assays for distinct biomarkers from varying sample types in a single run.

\*Based on the SpectroCHIP 384. The 96 format can genotype up to 4,800 genetic variants.



10-40ng  
of DNA

+



50  
targets per pad

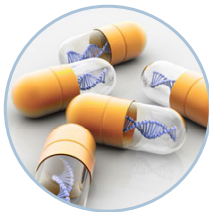
=



19,200  
genetic variants

## FLEXIBLE APPLICATIONS

The MassARRAY can meet your laboratory's testing needs with pre-designed and custom panels across the molecular diagnostics industry. Detect a wide range of biomarkers including SNPs, insertions, deletions, translocations, copy number variation, and methylation.



Pharmacogenetics



Liquid Biopsy



Tumor Profiling



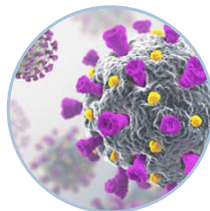
Specimen  
Validity



Sample Integrity



Hereditary Genetics



Infectious  
Disease



Methylation



Chimerism




Blood Typing

**Don't see your application?** Our custom assay services can get your lab up and running quickly.




## ACTIONABLE DATA WITH SYSTEM SOFTWARE

Save time and energy using minimal bioinformatics with easy-to-interpret data to meet your laboratory's needs. The included system software package provides comprehensive reports with the status of each target gene in integrable formats (HTML, PDF and CSV). This data can be accessed remotely, used as is in your laboratories workflow, or analyzed further by our reporting partners.

	A	B	C	D	E	F
1	Report Summary					
2	Report Software Version	1.20.100				
3	Report date	2020-01-28				
4	Report time	13:00:02				
5	SNP panel name	VariationScan				
6	SNP panel directory	C:\MassARRAY\Types\bin\Reports\PCRs\Report\AggData\VariationScan				
7	SNP panel file	C:\MassARRAY\Types\bin\Reports\PCRs\Report\AggData\VariationScan				
8	SNP panel definition file	PanelReport_CNV_definition.csv				
9	SNP panel version settings	CH02				
10	Number of plates	1				
11	Number of all samples	96				
12	Number of failed samples	0				
13	Number of control samples	96				
14	Number of control samples	PAS				
15	AggData					
16	ASB1	APOR	COMT	CYP2A2	CYP2B6	CYP2C9
17	G/G	E/E	G/G	*A/A	*A/A	*T/T
18	A/A	E/E	G/G	*A/A	*A/A	*T/T
19	G/G	E/E	G/G	*A/A	*A/A	*T/T
20	A/A	E/E	A/A	*A/A	*A/A	*T/T
21	A/A	E/E	A/A	*A/A	*A/A	*T/T



**Agena Somatic Variant Report**

Home Summary View

Search

Back

Sample SC\_1


QC Status PASS

Messages

Click to expand

Variant(s) Detected

Gene	Variant
BRCA1	p.V600E c.1799T>A_A3
BRCA2	c.1858G>A



**Agena CFTR Report**

Home Panel Content

Search

Report Summary:

Date of Report: Tue Jan 18 15:54:50 2022

Panel Name: CFTR v3.0 Panel

Intensities Threshold: 0.2

Extension Rate Threshold: 0.5

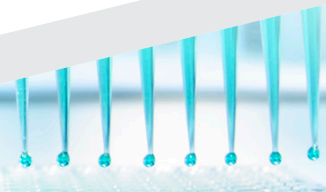
QC Passed: 24

QC Failed: 0

Samples with Variants: 22

## SOFTWARE REPORTING PARTNERS

MassARRAY Insights partners are a network of data interpretation software providers that work seamlessly with the MassARRAY System's molecular data output to deliver reporting advantages to genomic labs. Our partners include specialists in both PGx and oncology reporting. For more information and a list of our current partners, please visit our website at [www.agenabio.com/insights](http://www.agenabio.com/insights).



## ORDERING INFORMATION

Catalog No.	Product
10445	MassARRAY System with Chip Prep Module, 96 Genotyping
10446	MassARRAY System with Chip Prep Module, 96 EpiTyper
10447	MassARRAY System with Chip Prep Module, 384 Genotyping
10448	MassARRAY System with Chip Prep Module, 384 EpiTyper

## SPECIFICATIONS

### MassARRAY System with CPM 96

Components:	MassARRAY Analyzer 4 Chip Prep Module 96 Integrated computer
Dimensions:	37W x 43H x 27D in (104W x 110H x 68D cm)
Capacity:	2 x Microtiter plates (96-well) 2 x SpectroCHIP CPM 96 Arrays
Processing time:	Approx. 100 minutes per 96-well plate

### MassARRAY System with CPM 384

Components:	MassARRAY Analyzer 4 Chip Prep Module 384 Integrated Computer
Dimensions:	37W x 43H x 27D in (104W x 110H x 68D cm)
Capacity:	2 x Microtiter plates (384-well) 2 x SpectroCHIP CPM 384 Arrays
Processing time:	Approx. 150 minutes per 384-well plate

### Also Available – MassARRAY Dx Analyzer (CE-IVD)

For laboratories or device manufacturers who require a CE-IVD system or seek to develop CE-IVD assays. Not available in the United States.

### Get to Know the MassARRAY System



Watch the MassARRAY video: [agenabio.com/videos](https://agenabio.com/videos)

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Online Support:  
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