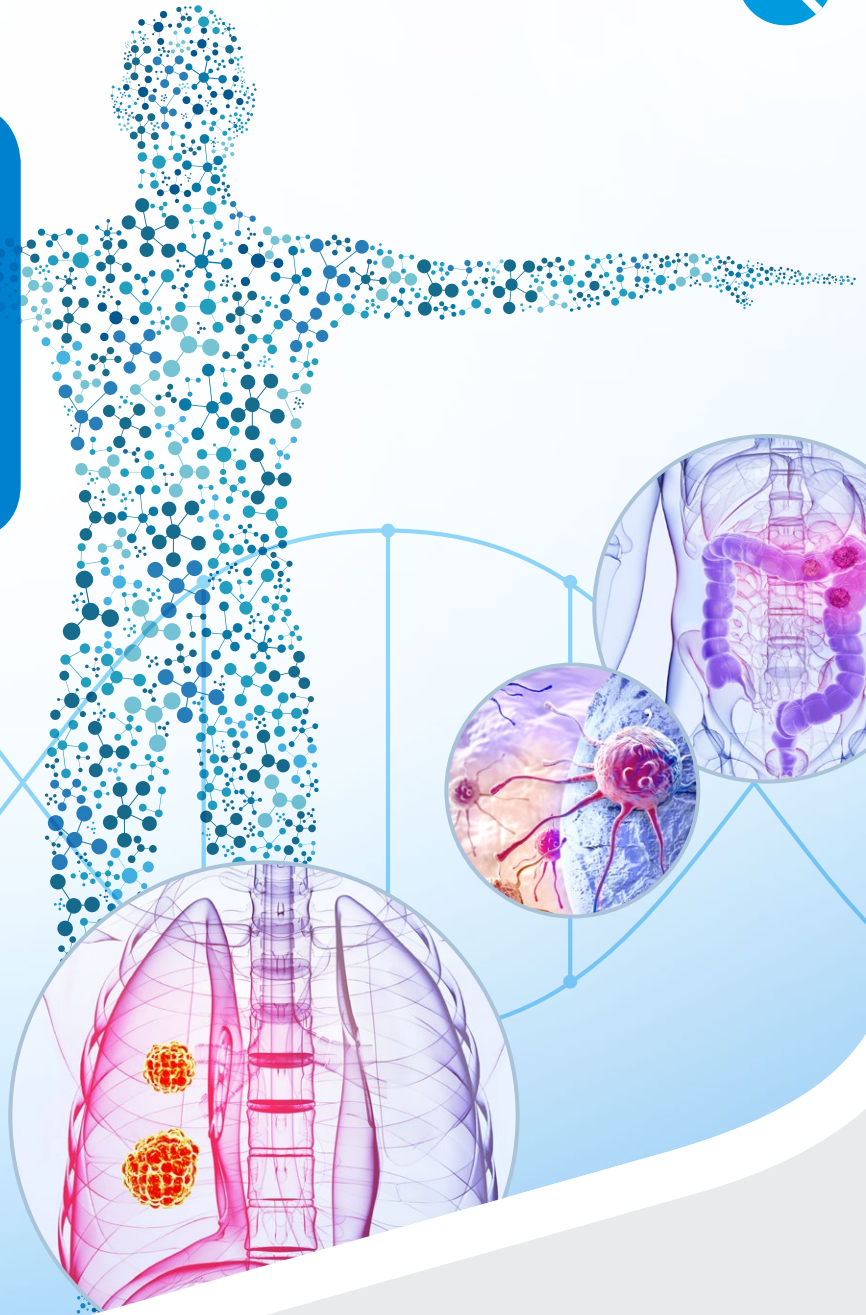
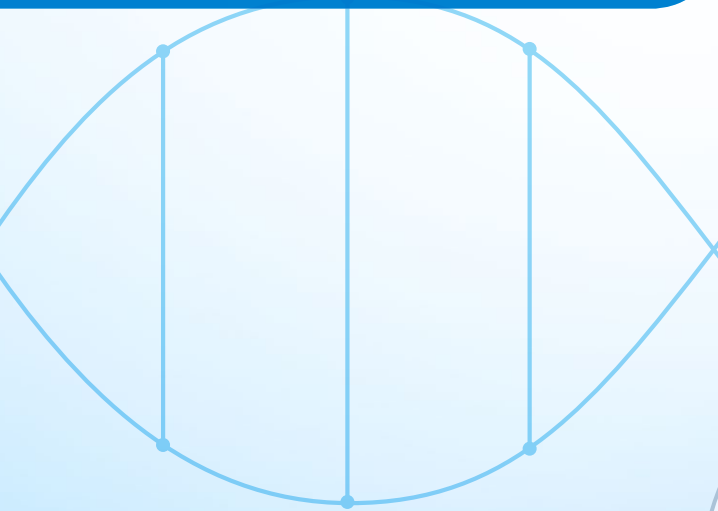


ONCOLOGY



# Oncology Research Solutions

Solid tumor & liquid biopsy  
variant detection



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

**Agena**<sup>®</sup>  
BIOSCIENCE



## Challenges in Cancer Research

Oncology molecular research is challenging enough without the added complications of labor-intensive workflows, complex bioinformatics, variants of unknown significance, high cost and sample requirements.

MassARRAY® technology combined with UltraSEEK® and iPLEX® HS chemistries eliminates these challenges while maintaining the ability to target key biomarkers from liquid and tissue biopsies.

### TOOLS FOR UNDERSTANDING CANCER

Whether researching cancer progression or studying the potential of drug candidates, the need for robust technology that can address both solid tissue and liquid biopsies is in high demand. Oncology research solutions from Agena Bioscience helps laboratories navigate smoothly between these challenging sample types.

#### Liquid Biopsy



#### Solid Tumor Profiling



# Rapid and Sensitive Detection

## TARGETED ASSAYS

Detect variants using focused panels and minimal DNA input. The targeted panels from Agena use as little as 10 ng to identify as many as 100 variants from a single sample.

## SINGLE-DAY WORKFLOW

The simple, technician-friendly workflow gets you data from DNA in as little as 8 hours, with minimal manual processing. Analysis is clear and straightforward with automated software.



# Liquid Biopsy

With Agena, there is no need to trade sensitivity for breadth of variant coverage. Over 100 variants, including insertions and deletions, can be identified from a single blood draw, at as low as 0.1% variant allele frequency (VAF) using UltraSEEK chemistry.<sup>1</sup>

In a recent technology comparison study, the UltraSEEK assay was found to have higher sensitivity and faster turnaround time for the detection of *KRAS* variants, as compared to ten other technologies, including digital droplet PCR and various NGS-based assays.<sup>2</sup>

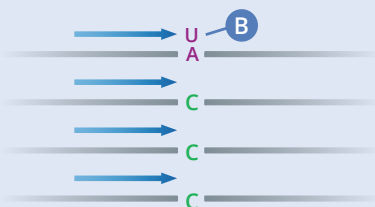
To achieve high sensitivity, UltraSEEK utilizes multiplexed PCR, followed by variant specific single base extension and capture by streptavidin-labeled magnetic beads. Built-in controls are used to verify the presence of DNA template in the reaction.

## ≥0.1% variant detection with UltraSEEK

1 PCR



2 Variant-Specific Base Extension



- Single base extension specific for the variant allele using biotinylated terminating nucleotides

3 Capture of Specific Single Base Primer



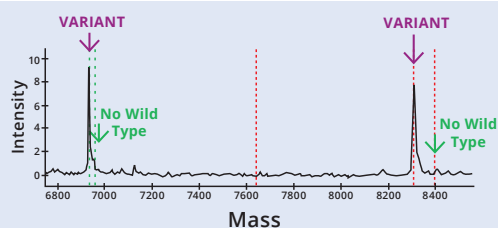
- Streptavidin-labeled magnetic bead captures low-frequency variants only

4 Analyte Transfer and Data Acquisition



- Automated sample processing

5 MassARRAY Analysis



- Clear, unambiguous data, no bioinformatics needed

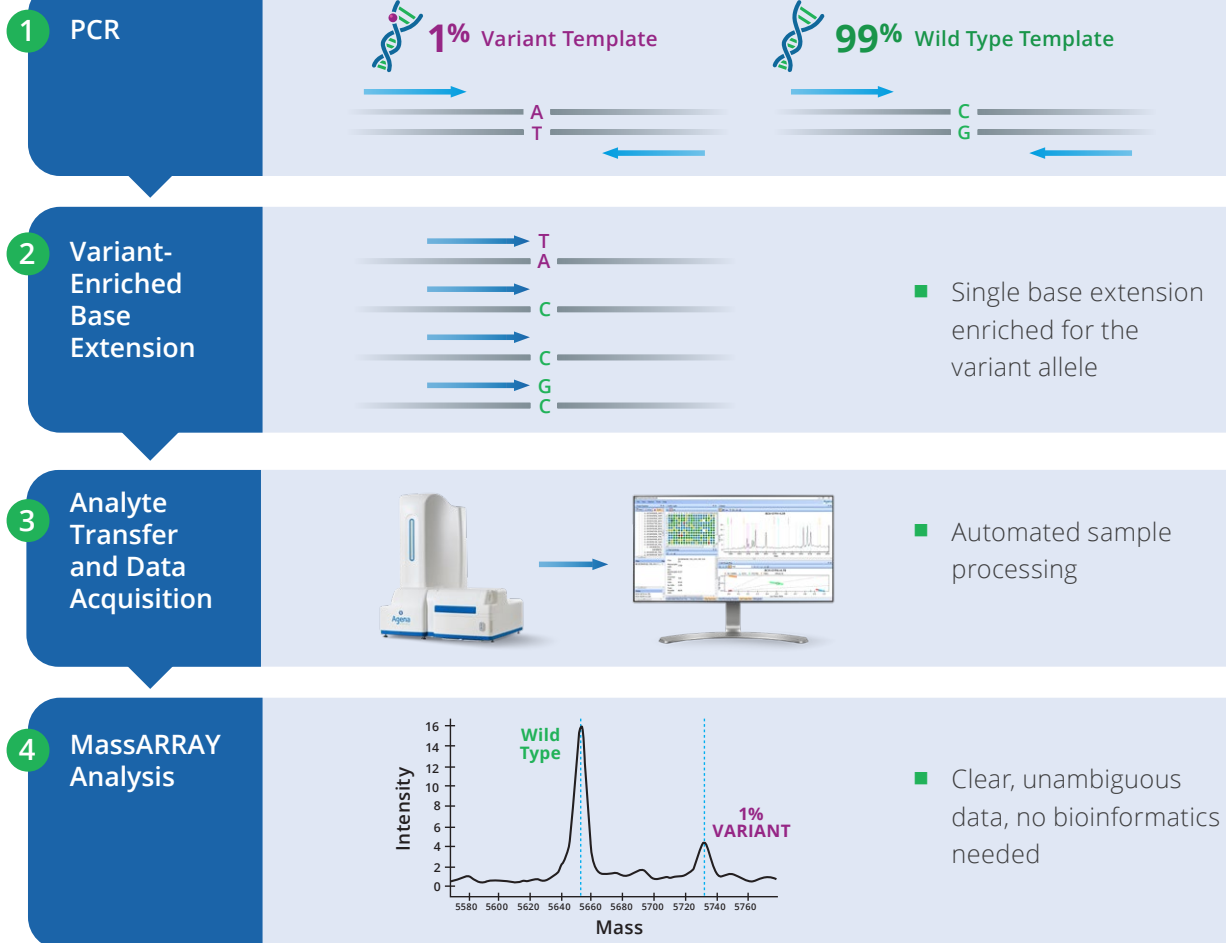


## Solid Tumor Profiling

Molecular assays heavily depend on the quantity and quality of biopsy samples, with labs typically rejecting 20-30% of samples in an NGS workflow.<sup>3</sup> Agena enables you to minimize sample rejection, reduce laboratory costs, and generate data quickly.

iPLEX HS enables the detection of variants as low as 1% VAF from FFPE tissue, core needle biopsies, FNA, and cytology smears. The wild-type signal is restrained in order to achieve increased sensitivity.

### 1% variant detection with iPLEX HS



## REFERENCES

1. Mosko, Michael J., et al. Ultrasensitive Detection of Multiplexed Somatic Mutations using MALDI-TOF Mass Spectrometry. *Journal of Molecular Diagnostics*. 2016 Jan; 18(1):23-31.
2. Sherwood JL, Brown H, Rettino A, et al. Key differences between 13 KRAS mutation detection technologies and their relevance for clinical practice. *ESMO Open* 2017;2:e000235. doi:10.1136/esmoopen-2017-000235
3. <https://www.genomeweb.com/molecular-diagnostics/intermountains-edited-cancer-panel-reducing-rate-tests-rejected-due>



## ORDERING INFORMATION

Catalog No.	Item	Sample Type	# Samples	Chip Format
13267F	iPLEX HS Lung Panel (RUO) Set - CPM (5x96)	Tissue	60	CPM 96
13334D	iPLEX HS Lung Panel (RUO) Set - CPM (2x384)	Tissue	96	CPM 384
13335D	iPLEX HS Lung Panel (RUO) Set - CPM (10x384)	Tissue	480	CPM 384
13266F	iPLEX HS Colon Panel (RUO) Set - CPM (5x96)	Tissue	60	CPM 96
13332D	iPLEX HS Colon Panel (RUO) Set - CPM (2x384)	Tissue	96	CPM 384
13333D	iPLEX HS Colon Panel (RUO) Set - CPM (10x384)	Tissue	480	CPM 384
13268F	iPLEX HS Melanoma Panel (RUO) Set - CPM (5x96)	Tissue	60	CPM 96
13336D	iPLEX HS Melanoma Panel (RUO) Set - CPM (2x384)	Tissue	96	CPM 384
13337D	iPLEX HS Melanoma Panel (RUO) Set - CPM (10x384)	Tissue	480	CPM 384
13316F	PIK3CA Breast Panel (RUO) Set - CPM (5x96)	Tissue	160	CPM 96
13262F	UltraSEEK Colon Panel (RUO) Set - CPM (5x96)	Plasma	40	CPM 96
13263F	UltraSEEK EGFR Panel (RUO) Set - CPM (2x96)	Plasma	192	CPM 96
13264F	UltraSEEK Lung Panel (RUO) Set - CPM (5x96)	Plasma	40	CPM 96
13265F	UltraSEEK Melanoma Panel (RUO) Set - CPM (5x96)	Plasma	40	CPM 96

*These panel sets contain assay specific primers & all the required reagents to process DNA samples on the MassARRAY System.*

## STILL DON'T SEE WHAT YOU ARE LOOKING FOR?

The flexibility of iPLEX HS and UltraSEEK chemistries enables custom content for research on a range of cancer types. The MassARRAY System can identify substitutions, insertions, deletions and copy number across targeted genes. Contact your local Agena Bioscience® sales representative to learn more about Assays by Agena services and to request a quote for content tailored to your needs.

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

### Agena Bioscience, Inc.

4755 Eastgate Mall  
San Diego, CA 92121  
Phone: +1.877.443.6663

Orders: [orderdesk@agenabio.com](mailto:orderdesk@agenabio.com)  
Website: [www.agenabio.com](http://www.agenabio.com)  
Support: <https://support.agenabio.com>



ONC0007 03 MassARRAY, iPLEX, UltraSEEK and Agena Bioscience are registered trademarks of Agena Bioscience, Inc.  
© 2018-2024 Agena Bioscience, Inc. All rights reserved.