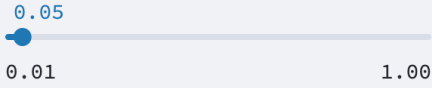
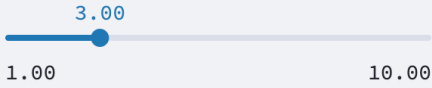


## Analysis Settings

VAF Threshold (%)



S/N Threshold



Check Memory Usage

## Contact

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# Liquid Biopsy Analysis Platform

## Clinical ctDNA Analysis Pipeline for Precision Oncology

Demonstrating bioinformatics capabilities for clinical genomics applications

**Features:** Low-VAF detection • Quality control • Clinical interpretation • Database integration



## Technical Analysis

High Confidence

6

↑ 75%

Actionable

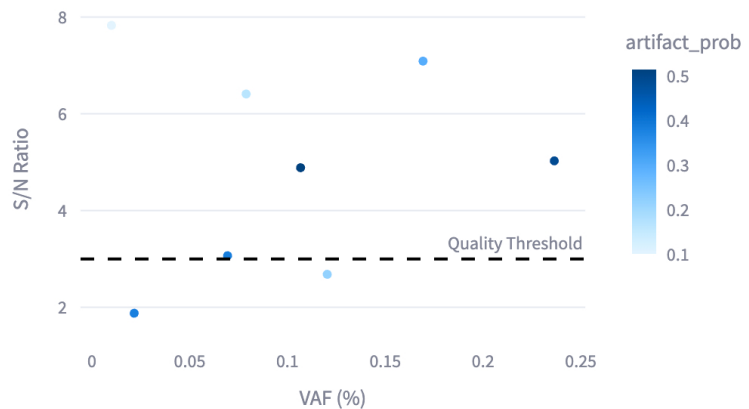
4

↑ 50%

Avg VAF

0.10%

## VAF vs Signal-to-Noise Analysis



## Quality Control Monitoring

### Validation Rate Trend



### Artifact Rate Monitoring



# Variant Analysis

Number of variants to display:



PIK3CA - var\_001



**VAF:** 0.022%

**Cancer Type:** Breast

**Depth:** 5,466x

**ctDNA Fraction:** 17.34%

**Alt Reads:** 1

**Artifact Prob:** 38.1%

**S/N Ratio:** 1.9

**Status:** Confirmed

 Requires Additional Validation

KRAS - var\_002



**VAF:** 0.120%

**Cancer Type:** CRC

**Depth:** 11,949x


**ctDNA Fraction:** 3.75%

**Alt Reads:** 14

**Artifact Prob:** 21.7%

**S/N Ratio:** 2.7

**Status:** Confirmed

 Requires Additional Validation

EGFR - var\_003



**VAF:** 0.010%

**Cancer Type:** Pancreatic

**Depth:** 7,047x


**ctDNA Fraction:** 4.73%

**Alt Reads:** 0

**Artifact Prob:** 10.0%

**S/N Ratio:** 7.8

**Status:** Confirmed

 High Confidence Call

PIK3CA - var\_004



**VAF:** 0.169%

**Cancer Type:** Breast

**Depth:** 6,528x

**ctDNA Fraction:** 13.64%

**Alt Reads:** 11

**Artifact Prob:** 29.8%

**S/N Ratio:** 7.1

**Status:** Failed

✓ High Confidence Call

KRAS - var\_005



VAF: 0.069%

Cancer Type: Pancreatic

Depth: 12,041x

ctDNA Fraction: 13.70%

Alt Reads: 8

Artifact Prob: 38.5%

S/N Ratio: 3.1

Status: Confirmed

⚠ Requires Additional Validation

## Platform Capabilities

### Technical Features:

- Ultra-low VAF detection ( $>0.01\%$ )
- Signal-to-noise optimization
- Artifact filtering algorithms
- Quality control pipelines
- Real-time monitoring
- Statistical validation

### Clinical Applications:

- Treatment selection support
- Biomarker discovery
- Resistance monitoring
- Prognostic assessment
- Clinical reporting
- Physician decision support