

# Less Tissue, More Results.

## CLINICALLY ACTIONABLE INFORMATION

We identify all molecular alterations that cause individual cancers.

## Robust Molecular Testing of Limited Specimens

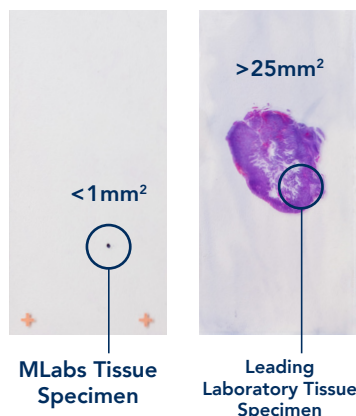
Combining meticulous microdissection procedures directed by experienced anatomic pathologists with the most robust NGS-based testing enables successful testing of specimens with limited tissue including small biopsies and paucicellular aspirates. This robust testing can be performed on more than 97% of these limited specimens.

## Versatility of Accepted Specimens

- Formalin-fixed, paraffin-embedded (FFPE) blocks
- FFPE tissue on slides
- Diff-Quik stained aspirate smears
- Pap stained aspirate smears
- H&E stained slides
- Previously extracted DNA/RNA

## Input Requirements

- 1 Less than 1mm<sup>2</sup> of tissue
- 2 As little as 100 tumor cells



## Mutations

|              |       |        |        |
|--------------|-------|--------|--------|
| AKT1         | ERBB3 | IDH2   | MTOR   |
| ALK          | ERBB4 | JAK1   | NRAS   |
| AR           | ESR1  | JAK2   | PDGFRA |
| BRAF         | FGFR2 | JAK3   | PIK3CA |
| CDK4         | FGFR3 | KIT    | RAF1   |
| CTNNB1       | GNA11 | KRAS   | RET    |
| DDR2         | GNAQ  | MAP2K1 | ROS1   |
| EGFR         | HRAS  | MAP2K2 | SMO    |
| ERBB2 (HER2) | IDH1  | MET    |        |

## Copy Number Variants

|       |              |       |        |
|-------|--------------|-------|--------|
| ALK   | CDK6         | FGFR3 | MYC    |
| AR    | EGFR         | FGFR4 | MYCN   |
| BRAF  | ERBB2 (HER2) | KIT   | PDGFRA |
| CCND1 | FGFR1        | KRAS  | PIK3CA |
| CDK4  | FGFR2        | MET   |        |

## Fusions

|       |       |          |              |
|-------|-------|----------|--------------|
| ALK   | FGFR1 | ERG      | ERBB2 (HER2) |
| RET   | FGFR2 | ETV1     | PDGFRA       |
| ROS1  | FGFR3 | ETV4     | PPARB        |
| NTRK1 | MET   | ETV5     |              |
| NTRK2 | BRAF  | AXL      |              |
| NTRK3 | RAF11 | EGFRvIII |              |



Technical Director of Molecular Oncology/Genetics Laboratory, **Bryan Betz, Ph.D.**, joined the faculty of the University of Michigan in 2007. His areas of interest include application of emerging technologies to clinical molecular diagnostics; cancer molecular genetics.



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### EFFECTIVE, RESOURCEFUL SOLUTIONS

#### Nucleic acid extracted from original slides

For exhausted FFPE tissue blocks or aspirate cell blocks with few or no cancer cells, we can digitally scan the original diagnostic slides and use advanced methods to extract DNA and RNA for molecular testing.

### HOW WE COMPARE

|                    | MLABS             | LEADING LABORATORY |
|--------------------|-------------------|--------------------|
| Mean (TAT)         | ~10 days          | ~12 days           |
| Tissue Requirement | <1mm <sup>2</sup> | >25mm <sup>2</sup> |
| Tumor Content      | ≥10%              | ≥20%               |
| QNS/Failure Rate   | <3%               | 15-20%             |

### PATIENT BENEFITS

- Fewer repeat biopsies and delays
- Improved patient care and survival rates
- Shorter hospital stays and lower out-of-pocket costs
- Targeted therapy with improved efficacy and fewer side effects

### Convenience and customer service

Our knowledgeable staff answers questions 24/7, facilitating interactions with pathologists and technical staff. We provide detailed information for collecting, testing, and transporting specimens.

### Compelling emphasis

The academic focus of MLabs propels us to improve patient health, develop medical breakthroughs, and educate scientists. That's *our* business.

