

# Less Tissue, More Results.

## CLINICALLY ACTIONABLE INFORMATION

We identify all molecular alterations that cause individual cancers.

## Robust Molecular Testing of Limited Specimens

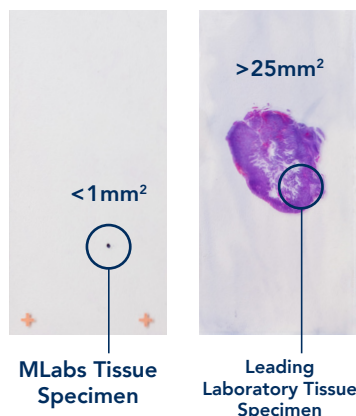
Combining meticulous microdissection procedures directed by experienced anatomic pathologists with the most robust NGS-based testing enables successful testing of specimens with limited tissue including small biopsies and paucicellular aspirates. This robust testing can be performed on more than 97% 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)	~5 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.

