



LIQUID BIOPSY FOR NON-INVASIVE CANCER TESTING

A molecular test alternative for when tissue-based biopsy is not available or is insufficient

Designed for precision treatment and drug resistance monitoring

- Quantitatively detect cancer-driving variants and drug resistant markers before making treatment decisions
- Find actionable results even after tissue samples have been exhausted
- Requires two 10ml tubes of blood that can easily be worked into patient workflow
- Detects single nucleotide variants (SNVs), gene fusions, insertion and deletions (Indels), copy number variations (CNVs), and microsatellite instability (MSI) status
- Input includes both ctDNA and ctRNA allowing for optimal fusion detection

qPCR [3 Day TAT]

ALK*	BRAF	EGFR	KRAS
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- Single gene analytes via qPCR
- Can be run together or individually
- Rapid turnaround time of <3 business days
- EGFR T790M and C797S variant detection for drug resistance monitoring included

Limit of detection	0.01%
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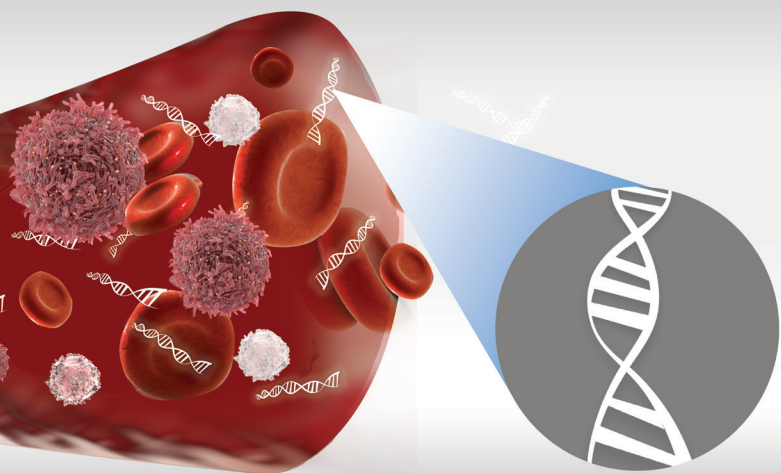
Key		
ctDNA	ctRNA*	ctDNA/RNA**

NGS [3-5 Days TAT]

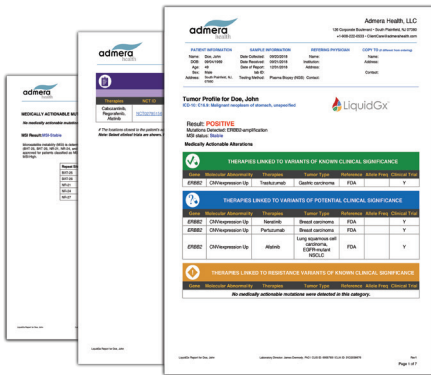
AKT1	ALK**	BRAF	EGFR	ERBB2	HRAS
KIT	KRAS	MAP2K1	MET**	NRAS	PDGFRA
PIK3CA	PTEN	RET*	ROST*	TP53	

- Next Generation Sequencing test, coverage of >170 variants in 17 genes frequently mutated in cancer
- Includes MSI for selection of anti-PD1 therapy
- Turnaround time of 3-5 business days
- Ability to detect novel fusions lowers the rate of false negatives

Limit of detection	SNVs	Indels	Fusions	CNVs	MSI
	0.1% (as low as 0.02%)	0.1% (as low as 0.01%)	0.1% (as low as 0.01%)	0.5 extra copies (as low as 0.2 copies)	2%



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|--------------------------|---------------------------|
| Afatinib (Gilotrif®) | Ipilimumab (Yervoy®) |
| Alectinib (Alecensa®) | Nilotinib (Tasigna®) |
| Bevacizumab (Avastin®) | Nivolumab (Opdivo®) |
| Brigatinib (Alunbrig®) | Osimertinib (Tagrisso®) |
| Cabozantinib (Cometriq®) | Panitumumab (Vectibix®) |
| Ceritinib (Zykadia®) | Pembrolizumab (Keytruda®) |
| Cetuximab (Erbix®) | Sorafenib (Nexavar®) |
| Crizotinib (Xalkori®) | Sunitinib (Sutent®) |
| Dabrafenib (Tafinlar®) | Temsirolimus (Torisel®) |
| Erlotinib (Tarceva®) | Trametinib (Mekinist®) |
| Everolimus (Afinitor®) | Trastuzumab (Herceptin®) |
| Gefitinib (Iressa®) | Vandetanib (Caprelsa®) |
| Imatinib (Gleevec®) | Vemurafenib (Zelboraf®) |

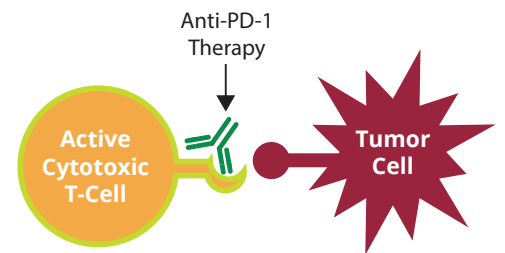
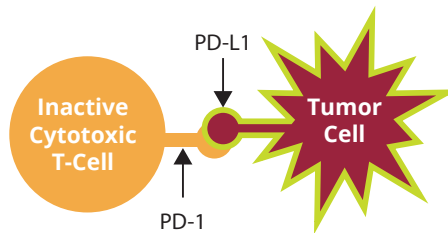
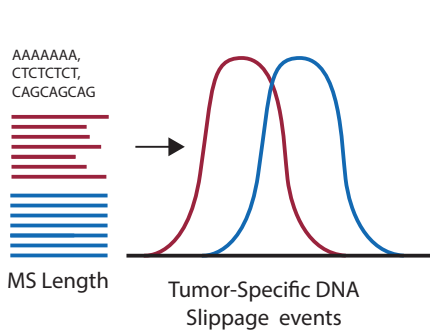


Clear, color-coded recommendations:

- FDA-approved drugs and variants with strong clinical significance
- FDA-approved drugs and variants with potential clinical significance
- Drugs that will likely not show any benefit due to the presence of resistance markers
- Easy to read with relevant clinical trial information based on geography

MSI can predict a predisposition to mutations as a result from impaired DNA mismatch repair (MMR) and effective anti-PD-1 therapy

MSI status is determined by detecting the length of mononucleotide repeats at five genomic sites (BAT-25, BAT-26, NR-21, NR-24, and NR-27)

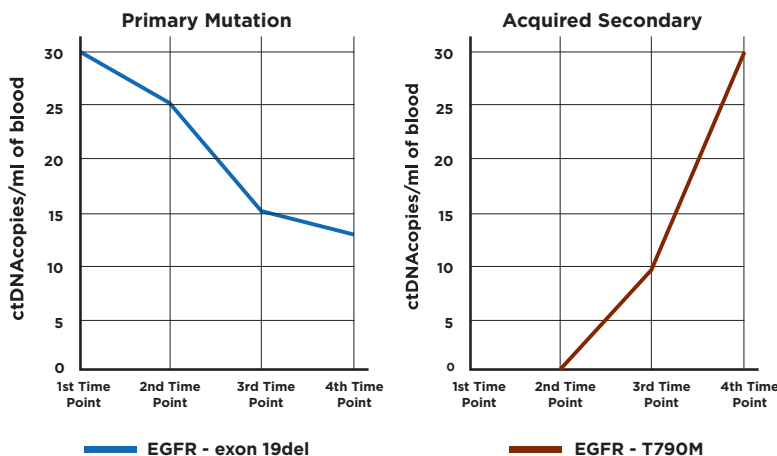


A shift in repeat length (formation of a second peak) observed in the **cell-free DNA (cfDNA)** compared to **genomic DNA (gDNA)** at 2 or more sites indicates MSI-High

T-Cell cannot recognize tumor cell as foreign

With anti-PD1 therapy, T-Cell can now recognize tumor cell as foreign

Anti-PD1 therapy is FDA approved for MSI-High pan-cancer (Pembrolizumab) and colorectal cancer (Nivolumab) patients



Quantifiably detects variants, including drug resistant markers

An opportunity to avoid an invasive rebiopsy