Biomarker Testing Comparison

HOPA
Hematology/Oncology Pharmacy Association

LIQUID BIOPSY BIOMARKER TESTS

	Companion Diagnostic Available	RNA Test	CHIP	MSI	bTMB	Tumor Origin	HLA Genotyping	HRD Add-On (ctDNA)	Notes/ Comments:	Website
Caris		✓	✓	✓	✓		✓			https://www.carislifesciences.com/physicians/physician-tests/caris-assure/
Foundation Medicine	✓			✓	✓	✓			Test can report HRR-related gene alterations but does not provide a dedicate HRD signature/ genomic scar assessment	https://www.foundationmedicine.com/test/foundationone-liquid-cdx
Guardant	✓		✓	✓	✓	✓	✓	✓		Guardant360® Liquid: #1 Liquid Biopsy for Treatment Selection
NeoGenomics				✓	✓					NEO PanTracer LBx
Northstar - Billion to One		✓	✓	✓						https://www.northstaronc.com/northstar-select#overview
Tempus			✓	✓	✓					Tempus xF & xF+ | Liquid Biopsy for Oncology

TISSUE BIOPSY BIOMARKER TESTS

	Companion Diagnostic Available	RNA Test	Tumor Normal Offered	MSI	TMB	IHC Tests Available	Tumor Origin Testing	HLA Genotyping	HRD Add-On	Notes/ Comments:	Website
Caris	✓	✓		✓	✓	✓	✓	✓	✓		Physician Tests | Caris Life Sciences
Exact Sciences (Abbott)		✓	✓	✓	✓	✓					OncoExTra® Provider Overview | Exact Sciences
Foundation Medicine	✓	✓		✓	✓	✓			✓		https://www.foundationmedicine.com/test/foundationone-cdx
Guardant		✓		✓	✓	✓			✓		https://www.guardantcomplete.com/hcp/solutions/guardant360-tissue
LabCorp		✓		✓	✓			✓	see comment	HRD standard for only ovarian/fallopian tube/primary peritoneal	https://oncology.labcorp.com/cancer-care-team/test-menu/omniseq-insight
Myriad		✓		✓	✓	✓			✓	Limited IHC offerings, HRD CDx	https://myriad.com/genetic-tests/precise-tumor/
Natera		✓	✓	✓	✓	✓				Requires liquid/tissue	Natera Comprehensive Genomic Profiling
NeoGenomics		✓		✓	✓	✓	✓		✓	Tumor Origin testing through Biotheranostics CancerTYPE ID	https://www.neogenomics.com/providers/oncology-solutions/pantracer-portfolio
Tempus	✓	✓	✓	✓	✓	✓	✓	✓	✓	HRD requires liquid ctDNA for breast/ovarian only. HRD for other indications based on RNA analysis.	https://www.tempus.com/solutions/tailored-testing/

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GERMLINE GENETIC TESTING (CANCER SUSCEPTIBILITY GENES)

Vendor	Is a dedicated germline test available?	Link
Caris	No	
Exact Sciences (Abbott)	Yes	Riskguard® Hereditary Cancer Test | Exact Sciences
Foundation Medicine	Yes	Germline Testing | Foundation Medicine
Guardant	Yes	https://assets.ctfassets.net/usmmsb9k7du7/15CaFopenfkwv9pRnsAS8L/dfd1b914cef10c7c99b4b4831e5c09bf/Guardant-Germline-Testing.pdf
LabCorp	Yes	Labcorp Hereditary Cancer Testing
Myriad	Yes	Myriad Genetics MyRisk® Hereditary Cancer Test
Natera	Yes	Hereditary Genetic Testing for Cancer – Empower
Neogenomics	Yes (Fulgent)	Full Comprehensive Cancer Panel (Germline)
Northstar - Billion to One	No	
TEMPUS	Yes (Ambry)	Tempus Hereditary Cancer Testing

PHARMACOGENOMIC TESTING

Vendor	Pharmacogenomic testing available as add-on	Link
Caris	Yes	https://www.carislifesciences.com/physicians/physician-tests/caris-assure/
Exact Sciences (Abbott)	No	
Foundation Medicine	Yes	FoundationOne®PGx | Foundation Medicine
Guardant	Yes	https://www.guardantcomplete.com/hcp/solutions/guardant360-liquid
LabCorp	Yes	https://www.labcorp.com/assets-media/2958
Myriad	No	
Natera	No	
Neogenomics	No	
Northstar - Billion to One	Yes	Northstar Pharmacogenomics
TEMPUS	Yes	https://www.tempus.com/oncology/algorithmic-tests/?srsltid=AfmBOoo8QMpJs-RNLM2V-jU6gBjkOFpzj9nQpwtM5PMrR4GEpn8C_h_t

MRD ASSAYS

Vendor	Method of MRD test	Link
Billion to One	Tumor- Naive (Northstar Response)	https://www.northstaronc.com/northstar-response
Exact Sciences (Abbott)	Tumor-informed (Oncodetect)	Oncodetect™ Molecular Residual Disease Test for Providers | Exact Sciences
Foundation Medicine (Saga)	FoundationOne MRD	FoundationOne MRD
Guardant	Tumor-naive (Reveal)	Guardant Reveal™: Tissue-Free Test for ctDNA Monitoring
LabCorp	Tumor Informed (Plasma Detect ID)	Labcorp Plasma Detect ID MRD - Baseline Test | Test catalog | Invitae
Myriad	Tumor Informed (Precise MRD)	Precise MRD Test | Myriad Oncology
Natera	Tumor-informed (Signatera & Signatera Genome)	Signatera – Circulating Tumor DNA Blood Test | Natera
	Tumor-naive (Latitude)	Latitude Tissue Free MRD | Natera
Neogenomics	Tumor-informed (RaDaR ST)	RaDaR® ST
Tempus	Tumor-informed (xM Next Personal)	Tempus xM MRD & Monitoring Portfolio
	Tumor-naive (xM)	

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GLOSSARY OF TERMS			
Key Term	**Definition**	**Potential Clinical Relevance/Implications (Why is this important?)**	**References:**
Blood Tumor Mutational Burden (bTMB)	A liquid biopsy-based biomarker that quantifies somatic mutations in circulating tumor DNA (ctDNA) from plasma, serving as a noninvasive alternative to tissue-based TMB (tTMB) for predicting response to immune checkpoint inhibitors (ICIs).	Not yet FDA-approved as a companion diagnostic, and current ASCO guidelines recommend against using bTMB alone for treatment selection.	
Circulating Tumor DNA (ctDNA)	Small pieces of DNA that are released into a person's blood by tumor cells as they die.	ctDNA may help with treatment selection, detect residual disease, and monitor treatment response.	Definition of circulating tumor DNA - NCI Dictionary of Cancer Terms - NCI https://blog.dana-farber.org/insight/2023/06/what-is-ctdna-and-do-i-need-mine-tested/
Clonal Hematopoiesis of Indeterminate Potential (CHIP)	The presence of somatic mutations in hematopoeitic stem cells in an individual without detectable hematologic cancer. These can often be seen as individuals age or after receiving certain treatments like radiation or chemotherapy.	May signal additional workup for malignant hematologic condition is warranted. CHIP variants are not drivers of solid tumor malignancies and thus should not be targeted with systemic treatments.	Definition of clonal hematopoiesis of indeterminate potential - NCI Dictionary of Genetics Terms - NCI
Companion Diagnostic	Medical device which provides information that is essential for the safe and effective use of a corresponding drug or biologic product (FDA approved test)	These can identify patients who are most likely to benefit from a particular therapeutic project	Companion Diagnostics | FDA
Germline Genetic Testing	Evaluation of inherited gene changes that become incorporated into the DNA of every cell in the body of offspring (these changes are passed on from parents to offspring)	Germline genetics may have treatment implications, provide information regarding drug ADME, and inform the patient and family of any hereditary cancer syndromes and risk for other inherited diseases	Definition of germline mutation - NCI Dictionary of Cancer Terms - NCI
Human Leukocyte Antigen (HLA) Genotyping	HLA genes play a role in activating T-cells to induce an immune response and may contribute to a patient's response to cancer immunotherapies	Provides additional insight for patient enrollment into clinical trials and patients' response to immunotherapy	https://www.carislifesciences.com/about/news-and-media/caris-life-sciences-launches-hla-genotype-reporting-the-newest-addition-to-its-suite-of-comprehensive-molecular-science-offerings/
Homologous Recombination Deficiency (HRD)	Test to predict probability of the cancers inability to repair DNA breaks through HRR pathway.	HRD may be used to predict PARPi efficacy.	https://pmc.ncbi.nlm.nih.gov/articles/PMC11846297/
Immunohistochemistry (IHC)	A laboratory method that uses antibodies to check for protein expression in a sample of tissue	Many biomarkers can be detected by IHC testing (for example: HER2, PD-L1, MMR, CLDN18, ER/PR, FOLR1, cMET). In some cases these are more accurate than NGS testing as not all fusions or amplifications create oncogenic proteins.	Definition of immunohistochemistry - NCI Dictionary of Cancer Terms - NCI
Microsatellite Instability (MSI)	MSI may be caused by mistakes that don't get corrected when DNA is copied in a cell. It is found most often in colorectal cancer, gastric cancer, and endometrial cancer, but it may also be found in many other types of cancer.	MSI can be used as a biomarker to help predict immunotherapy response.	Definition of MSI - NCI Dictionary of Cancer Terms - NCI
Pharmacogenomics	The clinical impact of how a person's genes affect the way he/she responds to drugs. Pharmacogenomics focuses on pharmacogenes, which are genes that encode proteins related to the absorption, distribution, metabolism, and excretion of medications.	Genetic variation in pharmacogenes can impact the efficacy and tolerability of multiple chemotherapy agents and supportive care medications used in the treatment of patients with cancer.	Definition of pharmacogenomics - NCI Dictionary of Cancer Terms - NCI
Reflex/Reflexive Test	A form or ordering molecular assays that helps to limit barriers such as turn around time. These can often be automatically requested at diagnosis, or completed based on the result of a prior test.	Reflex testing can help accelerate time to diagnosis and treatment	https://pubmed.ncbi.nlm.nih.gov/41797649/
RNA (in reference to RNA-Only reports)	RNA is a chain of nucleotides necessary for essential biological functions	Some alterations can be better characterized through RNA analysis, such as for finding splicing errors and gene fusions. Due to the more rapid degredation of genetic material, RNA analysis is not recomended to be performed on blood samples as most are inaccurate.	
Tissue Stewardship	Best practices for sample acquisition, sample adequacy, and sample processing to maximize resource utilization and minimize need for rebiopsy	Tissue stewardship can help to ensure all appopropriate tests are completed that would impact diagnosis and treatment without running out of tissue and needing to rebiopsy	https://www.hmpglobalearningnetwork.com/site/jcp/field/comprehensive-genomic-testing-tissue-stewardship-and-best-practices
Tumor Mutational Burden (TMB)	The total number of mutations found in a specific measurement of the DNA of cancer cells. Reported as mutations per megabase.	TMB can be used as a biomarker to help predict immunotherapy response.	Definition of tumor mutational burden - NCI Dictionary of Cancer Terms - NCI
Tumor Normal	A comprehensive analysis performed on whole blood sample or non-cancerous tissue to provide additional information in NGS results	The ability to subtract variants in matched normal tissue or blood sample from tumor data, thus revealing those that are truly of somatic origin; eliminates this long cascade, allowing timely and accurate diagnosis	https://pmc.ncbi.nlm.nih.gov/articles/PMC8923150/
Tumor Origin	Test to identify primary source of a cancer. This is typically completed via thorough pathology review in combination with review of somatic mutations and staining to determine likely origin tissue of cancer	This can be used when original tumor location is unknown to help characterise the cancer and identify treatment options.	https://www.tempus.com/solutions/tailored-testing/#hrd
Turnaround Time	Time period from when sample is received and results are validated	Longer turnaround times can delay care	https://pmc.ncbi.nlm.nih.gov/articles/PMC10969576/

This resource should be used for informational puposes only and is meant to be a general overview. Please do your own research regarding these tests. (Updated August 2026)