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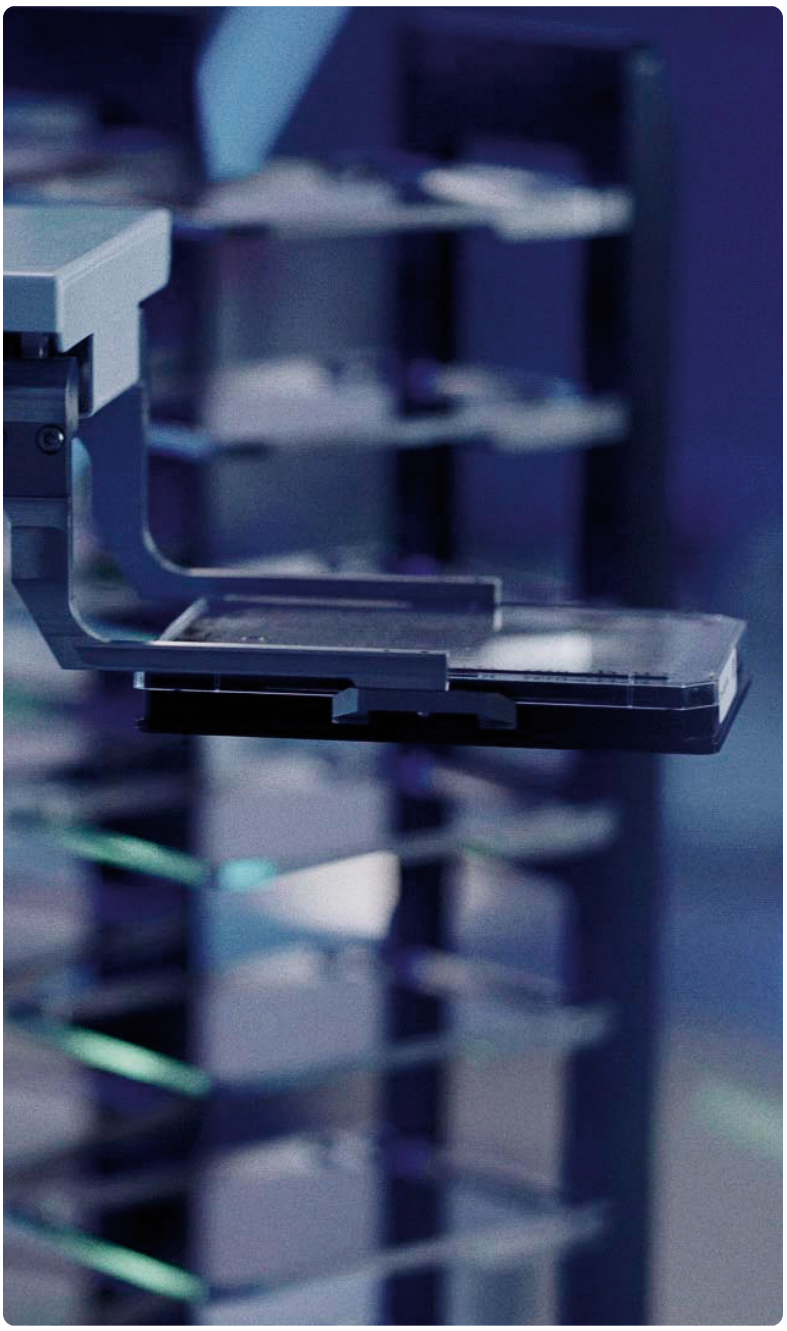
Germline Assay Guide



This is data-driven precision medicine.
This is the future of healthcare.

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xG Validated Hereditary Cancer Testing

(powered by Ambry Genetics®)

xG+ (CancerNext-*Expanded*®)

77-gene hereditary cancer DNA test, powered by Ambry Genetics®.

xG (CancerNext®)

36-gene hereditary cancer DNA test, powered by Ambry Genetics®.

+RNAinsight®

Optional add-on for xG or xG+ that analyzes RNA to support the classification and detection of DNA variants, powered by Ambry Genetics®.

xT xT Solid Tumor/Normal Match

648 gene somatic panel utilizing a normal match to enhance the accuracy of somatic variant calls by filtering out germline variants.

Based on the xT normal match, potential germline findings from a select list of 63 hereditary cancer genes may be reported on xT, if present. These findings may or may not be related to the patient's current cancer diagnosis.

What are the differences between xG/xG+ Hereditary Cancer Testing and xT Tumor/ Normal Match?

xG xG and xG+ are stand-alone validated germline tests that identify various types of germline alterations, including single and multi-exon deletions/duplications and gene rearrangements.

xG xG and xG+ are specifically designed to provide hereditary cancer risk assessment and as such, sensitivity and specificity have been rigorously assessed.

xT Potential germline reporting through xT tumor/normal matched testing assists in the identification of patients who may benefit from confirmatory follow-up testing with xG or xG+.

	xG **xG & xG+ Validated Hereditary Cancer Testing (powered by Ambry Genetics®)**	xT **xT Tumor/Normal Match (Potential Germline)**
Genes Assessed	xG (CancerNext®): 36-gene hereditary cancer DNA test associated with common hereditary cancer types xG+ (CancerNext-*Expanded*®): 77-gene hereditary cancer DNA test associated with both common and rare hereditary cancer types	63 hereditary cancer genes
Types of Variants Detected	SNVs, indels, large deletions/duplications, rearrangements/inversions	SNVs, indels
Possible Results Included on Report	Pathogenic variants, likely pathogenic variants, variants of uncertain significance (VUS)	Pathogenic variants, likely pathogenic variants
Validation	Rigorous validation process for hereditary cancer risk assessment	Validated for somatic testing; no specific hereditary validation
Secondary Confirmation	Performed for regions of inadequate NGS sequencing coverage (Sanger seq, MLPA, targeted chromosomal microarray)	Not performed
RNA Analysis	+RNAinsight® is an optional add-on for xG (CancerNext®) or xG+ (CancerNext-*Expanded*®), that analyzes RNA to support the classification and detection of DNA variants.	Tempus xR can be ordered as a standalone or with xT, offering full transcriptome RNA analysis for unbiased fusion and select splice variants detection.
Sample Types Accepted	Blood, Saliva, Cultured Fibroblasts*	Blood, Saliva
Familial Variant/Cascade Testing	Available for pathogenic/likely pathogenic variants	Not available
Variant Reclassification	Ambry Genetics® reclassifies; amendments issued through Tempus	Not available
Therapeutic Implications	Not included on report	FDA/NCCN®/OncoKB™ supported therapies included on report
Patient Genetic Counseling Services	Available with ordering provider referral	Not available

**Requires Skin Punch Biopsy specimen kit and dedicated requisition.*

The reportable findings for the genes included on the above panels are based upon recommendations from the ACMG, the NCCN, and other published literature. The clinical significance of reported variants are based on germline classification criteria created by the American College of Medical Genetics (ACMG) and Association for Molecular Pathology (AMP).

xG (CancerNext®) / xG+ (CancerNext-Expanded®) and +RNAinsight®, powered by Ambry Genetics® is available to select providers.

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