

# CancerNext-Expanded<sup>®</sup>

## Product Summary

As Ambry's most comprehensive pan-cancer test option for hereditary cancer predisposition, CancerNext-Expanded includes genes associated with a wide range of hereditary cancers such as breast, ovarian, uterine, colorectal, gastric, pancreatic, prostate, melanoma, renal, central nervous system tumors, pheochromocytoma/paraganglioma, hematologic malignancy, and other rare cancer predisposition conditions.

## Guidelines Recommend Genetic Testing For Hereditary Cancer



The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines<sup>®</sup>) recommend that hereditary cancer testing be considered in appropriate individuals when it is likely to impact any of following:

- a patient's cancer risk management
- a patient's cancer treatment
- the medical management of a patient's at-risk family members<sup>1,2</sup>

The NCCN Guidelines<sup>®</sup> also explain that because an individual's personal/family history may be explained by more than one gene or inherited cancer syndrome, multigene testing may be more efficient, cost-effective, and have a higher diagnostic yield.<sup>1,2</sup>

## Patients with a Personal and/or Family History Suggestive of Hereditary Cancer May Benefit From CancerNext-Expanded<sup>®</sup>

Genetic testing for hereditary cancer risk should be considered if your patient has a personal or family history of **ANY** of the following\*:

CANCER TYPE	MULTIPLE CANCERS OR OTHER CLINICAL RISK FACTORS	EARLY-ONSET CANCERS	ANCESTRY
<p>MALE BREAST</p> <p>OVARIAN</p> <p>PANCREATIC</p> <p>METASTATIC PROSTATE</p>	<p><b>2 OR MORE</b> primary cancers in the same person</p> <p><b>3 OR MORE</b> cancers on the same side of the family</p> <p><b>10 OR MORE</b> colorectal polyps in a person's lifetime</p>	<p><b>ANY OF THE FOLLOWING CANCERS DIAGNOSED BEFORE 50 YEARS OF AGE:</b></p> <p>Breast, colorectal, uterine, gastric</p>	<p>ASHKENAZI JEWISH WITH BREAST CANCER</p>

\* Adapted from published guidelines

# CancerNext-Expanded® Genes and Associated Cancers



78 - 90 gene hereditary cancer test



Medical management guidelines available for most genes



\*Ambry Clinician Management Resources (CMRs) are included with test reports and are available on our website.

GENE(S)	ASSOCIATED CANCERS**													
	Breast	Ovarian	Uterine	Colorectal & Polyposis	Pancreatic	Prostate	Gastric	Renal/Urothelial	Endocrine	Central Nervous System	Melanoma	Heme Malignancy	Other	Recessive Disease Associated
AIP										●				
ALK										●				
APC*				●			●		●	●			●	
ATM*	●	●			●	●								Ataxia telangiectasia
AXIN2*				●										
BAP1*								●			●		●	
BARD1*	●													
BMPR1A*				●			●							
BRCA1*	●	●			●	●								Fanconi anemia
BRCA2*	●	●			●	●					●			Fanconi anemia
BRIP1*		●												Fanconi anemia
CDC73									●				●	
CDH1*	●						●							
CDK4											●			
CDKN1B*									●	●				
CDKN2A*					●					●	●			
CEBPA*												●		
CHEK2*	●							●						
CTNNA1							●							
DDX41*												●		
DICER1		●								●				
EGFR													●	
EPCAM*		●	●	●	●	●	●	●		●			●	CMMRD††
ETV6*												●		
FH*								●	●				●	FH deficiency
FLCN*								●						
GATA2*												●		
GREM1*				●										
HOXB13*						●								
KIT													●	
LZTR1										●				
MAX*									●					
MBD4*				●								●		
MEN1*										●			●	
MET*								●						
MITF											●			
MLH1*		●	●	●	●	●	●	●		●			●	CMMRD††
MLH3*				●†										
MSH2*		●	●	●	●	●	●	●		●			●	CMMRD††
MSH3*				●†										Polyposis
MSH6*		●	●	●	●	●	●	●		●			●	CMMRD††
MUTYH*				●†									●	Polyposis
NF1*	●								●	●			●	
NF2										●				

GENE(S)	ASSOCIATED CANCERS**													
	Breast	Ovarian	Uterine	Colorectal & Polyposis	Pancreatic	Prostate	Gastric	Renal/Urothelial	Endocrine	Central Nervous System	Melanoma	Heme Malignancy	Other	Recessive Disease Associated
<i>NTHL1</i> *				●†										Polyposis
<i>PALB2</i> *	●	●			●									Fanconi anemia
<i>PDGFRA</i>													●	
<i>PHOX2B</i>										●				
<i>PMS2</i> *		●	●	●	●	●	●	●		●			●	CMMRD††
<i>POLD1</i> *				●										
<i>POLE</i> *				●										POLE-deficiency syndrome
<i>POT1</i>											●	●	●	
<i>PRKAR1A</i>									●	●			●	
<i>PTCH1</i>										●			●	
<i>PTEN</i> *	●		●	●				●	●	●	●			
<i>RAD51C</i> *	●	●												Fanconi anemia
<i>RAD51D</i> *	●	●												
<i>RB1</i>										●	●		●	
<i>RET</i> *									●					
<i>RPS20</i> *				●										
<i>RUNX1</i> *												●		
<i>SDHA</i> *								●	●				●	Mitochondrial deficiency syndrome
<i>SDHAF2</i> *									●					
<i>SDHB</i> *								●	●				●	Mitochondrial deficiency syndrome
<i>SDHC</i> *								●	●				●	
<i>SDHD</i> *								●	●				●	Mitochondrial deficiency syndrome
<i>SMAD4</i> *				●			●							
<i>SMARCA4</i>		●								●			●	
<i>SMARCB1</i>										●			●	
<i>SMARCE1</i>										●				
<i>STK11</i> *	●	●	●	●	●		●						●	
<i>SUFU</i>										●			●	
<i>TMEM127</i> *									●					
<i>TP53</i> *	●			●						●		●		
<i>TSC1</i> *								●		●			●	
<i>TSC2</i> *								●		●			●	
<i>VHL</i> *								●	●	●				Polycythemia
<i>WT1</i>								●					●	

**Optional CancerNext-Expanded Add-ons:**

Limited evidence genes (7): *ATRIP, EGLN1, KIF1B, PALLD, RAD51B, RNF43, TERT*

*There is limited evidence to support a causal role for these genes in association with cancer predisposition.*

Pancreatitis genes (5): *CFTR, CPA1, CTSC, PRSS1, SPINK1*

\*\* This figure depicts primary cancer associations and may not specify all gene-disease associations. Gene-disease associations and risk estimates vary from study to study, and data are rapidly evolving.

† Biallelic/Autosomal recessive colorectal cancer risk only

†† CMMRD = constitutional mismatch repair deficiency

# Results of Genetic Testing May Inform Personalized Medical Management

The potential benefits of genetic testing for hereditary cancer include\*:



Option to modify initial age, frequency, or modality of cancer screening



Consideration of risk-reducing measures



Option to tailor treatment strategies, including eligibility for clinical trials



Ability to identify at-risk family members

## +RNAinsight®

Paired DNA/RNA genetic testing with +RNAinsight analyzes functional RNA data to help classify DNA variants. It also identifies deep-intronic mutations that may go undetected with a DNA only or reflexive RNA testing approach. As a result, diagnostic yield is higher and variant of uncertain significance rate is lower, providing clarity for patients and healthcare providers.<sup>1</sup> This novel functional evidence is especially important in non-White populations that have been underrepresented in research and clinical testing.



Scan here to learn more about +RNAinsight.

## 1-90 Genes

### For Maximum Flexibility

Order +RNAinsight with analysis of any genes on the hereditary cancer menu\*

## Let us be your trusted partner

All hereditary cancer tests use Ambry's Classifi® program, a proprietary, knowledge-driven engine for gene classification, variant analysis & interpretation, and reporting. The Classifi program delivers the highest quality test results and ensures we leave no stone unturned in getting answers for you and your patients.

Ambry  
**Classifi**®

### REFERENCES

1. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High-Risk Assessment: Breast, Ovarian, and Pancreatic. V1.2025. ©National Comprehensive Cancer Network, Inc. 2024. All rights reserved. Accessed September 13, 2024. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.
2. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High-Risk Assessment: Colorectal, Endometrial, and Gastric. V2.2024 ©National Comprehensive Cancer Network, Inc. 2024. All rights reserved. Accessed October 8, 2024. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.
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