Ambry Genetics®

CancerNext-*Expanded*®

Product Summary

CancerNext-*Expanded* is Ambry's most comprehensive hereditary cancer test, addressing hereditary risk of many common and rare cancers and tumors.

Guidelines Recommend Genetic Testing For Hereditary Cancer

The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) 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[1,2]

The NCCN Guidelines® 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.[1,2]

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

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
MALE BREAST OVARIAN PANCREATIC METASTATIC PROSTATE	2 OR MORE primary cancers in the same person 3 OR MORE cancers on the same side of the family 10 OR MORE colorectal polyps in a person's lifetime	ANY OF THE FOLLOWING CANCERS DIAGNOSED BEFORE 50 YEARS OF AGE: Breast, colorectal, uterine, gastric	ASHKENAZI JEWISH WITH BREAST CANCER

CancerNext-*Expanded*® Genes and Associated Cancers

76 - 90 gene hereditary cancer test

Medical management guidelines available for most genes

GENE(S)	ASSOCIATED CANCERS**													
	Breast	Ovarian	Uterine	Colorectal	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††
*MSH2**		●	●	●	●	●	●	●		●			●	CMMRD††
*MSH3**				●†										Polyposis
*MSH6**		●	●	●	●	●	●	●		●			●	CMMRD††
*MUTYH**				●†									●	Polyposis
*NF1**	●								●	●			●	
NF2										●				
*NTHL1**				●†										Polyposis

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

Optional CancerNext-*Expanded* Add-ons:

Limited evidence genes (9): *ATRIP, EGLN1, KIF1B, MLH3, PALLD, RAD51B, RNF43, RPS20, TERT*
There is limited evidence to support a causal role for these genes in association with cancer predisposition.

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

* *Ambry Clinician Management Resource (CMR) included with test report and available at https://www.ambrygen.com/providers/resources/clinical-materials.*
** *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.[1] This novel functional evidence is especially important in non-White populations that have been underrepresented in research and clinical testing.

1-90 Genes

For Maximum Flexibility

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

Scan here to learn more about +RNAinsight, available at no additional out-of-pocket cost to patient.

Let us be your trusted partner

All hereditary cancer tests utilize 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™

** Adapted from published guidelines*

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.
3. Garutti, M. et al. 2023. Genes. 2023; 14(5):1025. Genes. 2023; 14(5):1025. https://doi.org/10.3390/genes14051025
4. Gerkes, E. H.,et al. 2016. Neurogenetics, 17(2), 83–89. https://doi.org/10.1007/s10048-015-0472-y
5. Greengard EG, et al. 2010 Jan 5 [Updated 2024 May 23]. In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK24599/
6. Korbonits M, et al. 2012 Jun 21 [Updated 2020 Apr 16]. In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK97965/
7. Lohmann DR, et al. 2000 Jul 18 [Updated 2023 Sep 21]. In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK1452/
8. Nemes K, et al. 2017 Dec 7 [Updated 2022 May 12]. In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK469816/
9. Rafei, H., et al. 2019. Clinical haematology, 32(2), 163–176. https://doi.org/10.1016/j.beha.2019.05.001
10. Weese-Mayer DE, et al. 2004 Jan 28 [Updated 2021 Jan 28]. In: GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK1427/

One Enterprise, Aliso Viejo, CA 92656 USA Toll Free +1.866.262.7943 Fax +1.949.900.5501 **ambrygen.com**

MKT-ONCO-FLYR-20128-EN v2 11.14.24