Ambry Genetics®

# Hereditary Cancer Portfolio Overview

## Setting the Standard in Genetic Testing

25 YEARS OF INNOVATION AND DISCOVERIES

**1999**
- Ambry was founded

**2001**
- First full gene sequencing of *CFTR*

**2010**
- First commercial NGS panel

**2011**
- First clinical test for whole exome sequencing

**2012**
- First multigene panels for hereditary cancer

**2013**
- First *BRCA*-related panels

**2019**
- First paired DNA & RNA testing for hereditary cancer (+RNAinsight®)

**2021**
- First to offer concurrent DNA/RNA analysis for all cancer predisposition genes on the menu
- First to systematically use CRISPR/MAVE for clinical variant interpretation

**2023**
- Published largest cohort of paired DNA/RNA testing results in peer-reviewed journal

## +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*

**5%**

**Hereditary Cancer Cases Leverage RNA Data**

RNA data can benefit all Ambry patients, even those with DNA-only testing[1]

**1/25**

**Positive Patients Would Be Missed Without RNA**

Results without +RNAinsight would be negative or inconclusive[2]

**~6%**

**Reduction in VUS Rate**

+RNAinsight reduces ambiguity for providers and patients**

**12,000**

**Non-White Patients Have Benefited**

+RNAinsight provided functional data to address known data gaps**

**Technical Details** +RNAinsight analyzes transcripts for up to 90 genes depending on which Ambry Genetics DNA-based Hereditary Cancer Panel it is paired with, and depending on the absence or presence of RNA transcripts expressed in the blood. The results from +RNAinsight are used to provide functional RNA information to further support classification of DNA variants. It is not intended to be used as a stand-alone diagnostic test.

| BRCAplus®<br>13 genes | BRCANext®<br>19-26 genes^ | ColoNext®<br>21-26 genes^ | CancerNext®<br>40 genes | CancerNext-*Expanded*®<br>77-90 genes^ | CustomNext-*Cancer*®<br>Choose from 90 genes^^ |
|---|---|---|---|---|---|
| | *BRIP1* | | *BRIP1* | *BRIP1* | *BRIP1* |
| *ATM* | *ATM* | | *ATM* | *ATM* | *ATM* |
| *BARD1* | *BARD1* | | *BARD1* | *BARD1* | *BARD1* |
| *BRCA1* | *BRCA1* | | *BRCA1* | *BRCA1* | *BRCA1* |
| *BRCA2* | *BRCA2* | | *BRCA2* | *BRCA2* | *BRCA2* |
| *CHEK2* | *CHEK2* | | *CHEK2* | *CHEK2* | *CHEK2* |
| *NF1* | *NF1* | | *NF1* | *NF1* | *NF1* |
| *PALB2* | *PALB2* | | *PALB2* | *PALB2* | *PALB2* |
| *RAD51C* | *RAD51C* | | *RAD51C* | *RAD51C* | *RAD51C* |
| *RAD51D* | *RAD51D* | | *RAD51D* | *RAD51D* | *RAD51D* |
| *CDH1* | *CDH1* | *CDH1* | *CDH1* | *CDH1* | *CDH1* |
| *PTEN* | *PTEN* | *PTEN* | *PTEN* | *PTEN* | *PTEN* |
| *STK11* | *STK11* | *STK11* | *STK11* | *STK11* | *STK11* |
| *TP53* | *TP53* | *TP53* | *TP53* | *TP53* | *TP53* |
| | *MLH1* | *MLH1* | *MLH1* | *MLH1* | *MLH1* |
| | *MSH2* | *MSH2* | *MSH2* | *MSH2* | *MSH2* |
| | *MSH6* | *MSH6* | *MSH6* | *MSH6* | *MSH6* |
| | *PMS2* | *PMS2* | *PMS2* | *PMS2* | *PMS2* |
| | *EPCAM* | *EPCAM* | *EPCAM* | *EPCAM* | *EPCAM* |
| | | *APC* | *APC* | *APC* | *APC* |
| | | *AXIN2* | *AXIN2* | *AXIN2* | *AXIN2* |
| | | *BMPR1A* | *BMPR1A* | *BMPR1A* | *BMPR1A* |
| | | *SMAD4* | *SMAD4* | *SMAD4* | *SMAD4* |
| | | *GREM1* | *GREM1* | *GREM1* | *GREM1* |
| | | *MBD4* | *MBD4* | *MBD4* | *MBD4* |
| | | *MSH3* | *MSH3* | *MSH3* | *MSH3* |
| | | *MUTYH* | *MUTYH* | *MUTYH* | *MUTYH* |
| | | *NTHL1* | *NTHL1* | *NTHL1* | *NTHL1* |
| | | *POLD1* | *POLD1* | *POLD1* | *POLD1* |
| | | *POLE* | *POLE* | *POLE* | *POLE* |
| | | *RPS20* | *RPS20* | *RPS20* | *RPS20* |
| | | | *BAP1* | *BAP1* | *BAP1* |
| | | | *CDKN2A* | *CDKN2A* | *CDKN2A* |
| | | | *FH* | *FH* | *FH* |
| | | | *FLCN* | *FLCN* | *FLCN* |
| | | | *HOXB13* | *HOXB13* | *HOXB13* |
| | | | *MET* | *MET* | *MET* |
| | | | *TSC1* | *TSC1* | *TSC1* |
| | | | *TSC2* | *TSC2* | *TSC2* |
| | | | *VHL* | *VHL* | *VHL* |
| | | | | *AIP* | *AIP* |
| | | | | *ALK* | *ALK* |
| | | | | *CDC73* | *CDC73* |
| | | | | *CDK4* | *CDK4* |
| | | | | *CDKN1B* | *CDKN1B* |
| | | | | *CEPBA* | *CEPBA* |
| | | | | *CTNNA1* | *CTNNA1* |
| | | | | *DDX41* | *DDX41* |
| | | | | *DICER1* | *DICER1* |
| | | | | *EGFR* | *EGFR* |
| | | | | *ETV6* | *ETV6* |
| | | | | *GATA2* | *GATA2* |
| | | | | *KIT* | *KIT* |
| | | | | *LZTR1* | *LZTR1* |
| | | | | *MAX* | *MAX* |
| | | | | *MEN1* | *MEN1* |
| | | | | *MITF* | *MITF* |
| | | | | *NF2* | *NF2* |
| | | | | *PDGFRA* | *PDGFRA* |
| | | | | *PHOX2B* | *PHOX2B* |
| | | | | *POT1* | *POT1* |
| | | | | *PRKAR1A* | *PRKAR1A* |
| | | | | *PTCH1* | *PTCH1* |
| | | | | *RB1* | *RB1* |
| | | | | *RET* | *RET* |
| | | | | *RUNX1* | *RUNX1* |
| | | | | *SDHA* | *SDHA* |
| | | | | *SDHB* | *SDHB* |
| | | | | *SDHD* | *SDHD* |
| | | | | *SHDC* | *SHDC* |
| | | | | *SDHAF2* | *SDHAF2* |
| | | | | *SMARCA4* | *SMARCA4* |
| | | | | *SMARCB1* | *SMARCB1* |
| | | | | *SMARCE1* | *SMARCE1* |
| | | | | *SUFU* | *SUFU* |
| | | | | *TMEM127* | *TMEM127* |
| | | | | *WT1* | *WT1* |

### ^ Add-on Options

BRCANext (19-gene base panel)
Limited Evidence Genes (7): *ATRIP, CDC73, FH, NTHL1, POLD1, POLE, RAD51B*

ColoNext (21-gene base panel)
Limited Evidence Genes (5): *ATM, CHEK2, CTNNA1, MLH3, RNF43*

CancerNext-*Expanded* (77-gene base panel)
Limited Evidence Genes (8): *ATRIP, EGLN1, KIF1B, MLH3, PALLD, RAD51B, RNF43, TERT*
Pancreatitis Genes (5): *CFTR, CPA1, CTRC, PRSS1, SPINK1*

*Limited evidence gene available as part of an add-on selection to a test. There is limited evidence to support a causal role for this gene in association with cancer predisposition.*

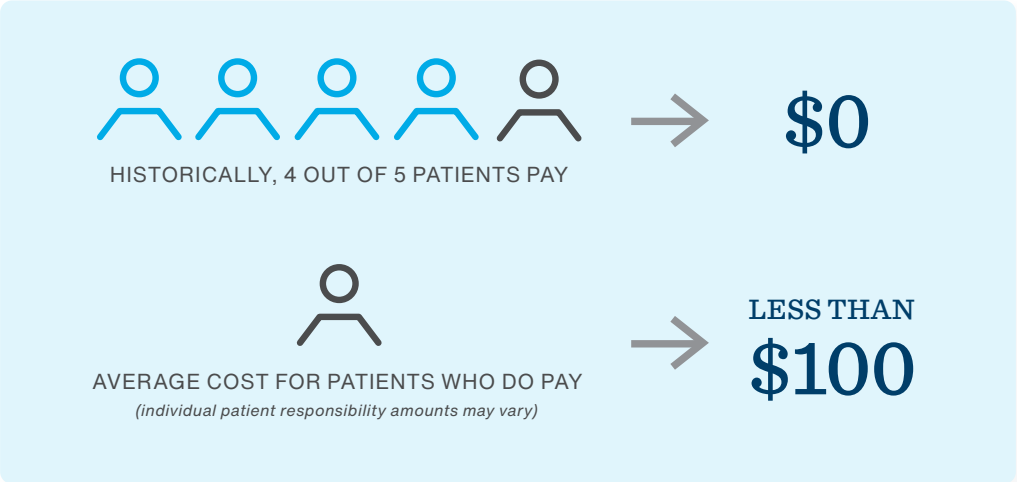
### ^^ Additional CustomNext-*Cancer* Genes

Limited Evidence Genes (Choose from 8): *ATRIP, EGLN1, KIF1B, MLH3, PALLD, RAD51B, RNF43, TERT*
Pancreatitis Genes (Choose from 5): *CFTR, CPA1, CTRC, PRSS1, SPINK1*

+RNAinsight can be added to any multigene hereditary cancer test with exception of BRCAplus. See front page for details.

## Excellent Coverage, Personalized Support

At Ambry, we understand that there is no “one-size-fits-all” in healthcare. We will work with your patients’ insurance coverage and provide options for accessing our high-quality genetic testing based on your patients’ individualized needs.




## Patient Assistance Program

- If your patient needs help with the cost of testing, they can request support through our Patient Assistance Program (PAP). The PAP considers their individual financial situation and provides personalized payment options based on a personalized assessment of their financial need.
- Have your patients call or email our Billing Support team at +1 949-900-5795 or billing@ambrygen.com with any questions.

## 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®

**References**

1. Horton, C., Hoang, L., Zimmermann, H., Young, C., Grzybowski, J., Durda, K., Vuong, H., Burks, D., Cass, A., LaDuca, H., Richardson, M. E., Harrison, S., Chao, E. C., & Karam, R. (2023) Diagnostic outcomes of concurrent DNA and RNA sequencing in individuals undergoing hereditary cancer testing. JAMA Oncology. https://doi.org/10.1001/jamaoncol.2023.5586
2. Horton C, et al. Expanding the reach of paired DNA and RNA sequencing: Results from 450,000 consecutive individuals from a hereditary cancer cohort; (Oral Presentation Session 84 - Strategies to Interpret Germline Variants in Cancer Predispostion Genes). Presented at the Annual Meeting of The American Society of Human Genetics, November 8, 2024, in Denver, CO.

* Not available for STAT Testing or BRCAplus.
** Based on internal data

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

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