

Hereditary Breast & Ovarian Cancer Risk Panel (20 genes)

This Hereditary Breast & Ovarian Cancer Risk Panel is a comprehensive 20-gene analysis that identifies inherited risks for hereditary breast and/or ovarian cancer from DNA isolated from a blood specimen.

Testing Method and Background

This test utilizes **Next Generation Sequencing (NGS) technology**, which provides coverage of all coding exons and noncoding DNA in exon flanking regions (on average 50 bp) enriched using hybrid capture methodology. This assay can detect >99% of described mutations in the included genes, when present, including single nucleotide variants (point mutations), small insertions/deletions (1-25 bp), larger deletions and duplication (<100 bp), complex insertions/deletions, splice site mutations, whole-gene deletions/duplications and exon-level intragenic deletions/insertions in each gene targeted for analysis. All reportable copy number variants are confirmed by independent methodology.

Inherited genetic mutations in *BRCA1* and *BRCA2* account for about 20 to 25% of hereditary breast cancers and about 5 to 10% of all breast cancers. In addition, mutations in *BRCA1* and *BRCA2* genes cause around 15% of ovarian cancers. This panel also includes genes responsible for very rare hereditary cancer syndromes, such as Lynch syndrome (*MLH1*, *MSH2*, *MSH6*, *PMS2*, or *EPCAM*), Li-Fraumeni syndrome (*TP53*), Cowden syndrome (*PTEN*), hereditary diffuse gastric cancer (*CDH1*), neurofibromatosis type I (*NF1*), and Peutz-Jeghers syndrome (*STK11*). These syndromes have been associated with increased lifetime risk for multiple cancer types, including breast and/or ovarian cancer, and are also characterized by other clinical features specific for each syndrome. In addition, this panel includes several other genes associated with hereditary predisposition to with breast or ovarian cancer (*ATM*, *BRIP1*, *CHEK2*, *PALB2*, *RAD51C*, *RAD51D*) were also included in this analysis.

Highlights of Hereditary Breast & Ovarian Cancer Risk Panel (20 genes)

Targeted Region

ATM, BRCA1, BRCA2, BRIP1, CDH1, CHEK2, DICER1, EPCAM, MLH1, MSH2, MSH6, NF1, PALB2, PMS2, PTEN, RAD51C, RAD51D, SMARCA4, STK11, TP53,

- **Wide-ranging Coverage of Variants**
Detects and provides coverage of all coding exons and noncoding DNA in exon flanking regions.
- **Accurate Results Using Clinically Validated Computational Data Analysis**
A variety of mutation types (point, indels and duplications) are confirmed using computational data analysis for sequence variant calling, filtering and annotation.

Ordering Information

Get started (non-HFHS): Print a Hereditary Cancer Panels requisition form online at www.HenryFord.com/HFCPD

Get started (HFHS): Order through Epic using test "Hereditary Breast & Ovarian Cancer Risk Panel (20 genes)" (DNA210009)

Specimen requirements:

- Peripheral Blood - 1-3ml in lavender top tube (EDTA) **Specimen stability: Ambient - 72 hours; Refrigerated - 1 week**
- Saliva specimen - Oragene self-collection kit
- Extracted DNA - from a CLIA-certified Laboratory

Cause for Rejection: Clotted, hemolyzed, or frozen specimens, improper anticoagulant, tubes not labeled with dual patient identification, non-dedicated tubes.

TAT: 10-14 business days (after Prior Authorization obtained)

CPT Codes: 81432, 81433, G0452

Mail test material to:

Henry Ford Center for Precision Diagnostics
Pathology and Laboratory Medicine
Clinic Building, K6, Core Lab, E-655
2799 W. Grand Blvd., Detroit, MI 48202

Contact us: Client Services, Account and Billing Set-up, and connect with a Molecular Pathologist at (313) 916-4DNA (4362)

For more information on Comprehensive Molecular Services, visit our website

www.HenryFord.com/HFCPD

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