HENRY FORD HEALTH
CENTER FOR PRECISION DIAGNOSTICS

Breast Cancer Risk Assessment and Management Panel

This Breast Cancer Risk Assessment & Management Panel is a comprehensive screen of 13 genes associated with increased risk for developing breast cancer using 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. This 13-gene panel also includes genes responsible for very rare hereditary cancer syndromes, such as Li-Fraumeni syndrome (TP53), Cowden syndrome (PTEN), hereditary diffuse gastric cancer (CDH1), Peutz-Jeghers syndrome (STK11), or neurofibromatosis type I (NF1). These syndromes have been associated with increased lifetime risk for multiple cancer types, including breast cancer, and are characterized by other clinical features specific for each syndrome. Inherited mutations in several other genes associated with breast cancer predisposition (ATM, CHEK2, and PALB2) were also included in this analysis. Identifying individuals with genetic predisposition to cancer can allow informed recommendations and personalized medical management that can significantly decrease cancer risks and improve overall survival rates.

Highlights of Breast Cancer Risk Assessment and Management Panel (13 genes)

Targeted Region

ATM, BARD1, BRCA1, BRCA2, CDH1, CHEK2, NF1, PALB2, PTEN, RAD51C, RAD51D, 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 "Breast Cancer Risk Assessment and Management Panel" (DNA2100021)

Specimen requirements:

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

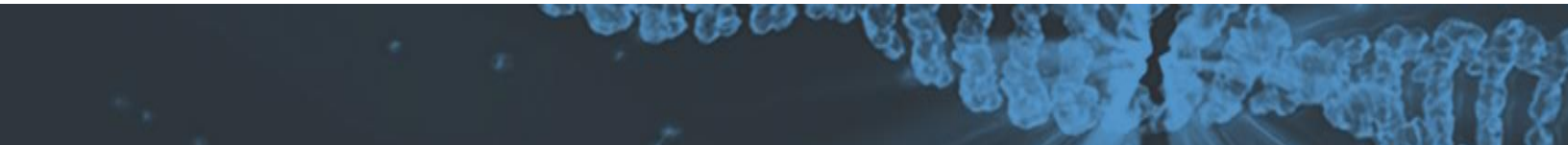
Cause for Rejection: Clotted, hemolyzed, or frozen specimens, improper anticoagulant, tubes not labeled with dual patient identification, non-dedicated tubes.

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

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

CPT Codes: 81162, 81307, 81321, 81323, 81404, 81405x2, 81406, 81408x2, G0452

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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