

# ScreenGene™

## WOMEN'S HEREDITARY CANCER RISK ASSESSMENT



- Mutations in specific genes are responsible for triggering hereditary cancers
- Women and Men with such mutations run extremely high risk of developing cancer
- Risk assessment before disease onset can substantially reduce the risk of cancer
- Targeted surveillance reduces medical costs and gives preemptive advantage before onset of the disease
- Patients with hereditary genetic mutation may get precise therapy guidance

### WHO SHOULD BE SCREENED ?

- All breast cancer patients < 50 years age
- All Triple negative breast cancer patients < 60 years age
- All patients with ovarian cancer, pancreatic cancer and metastatic prostate cancer
- All breast cancer patients, at any age, with history of breast, ovary, male breast, metastatic prostate or pancreatic cancer in one or more close relatives
- An individual at any age with known pathogenic/likely pathogenic cancer susceptibility gene within the family



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## Hereditary Women's Cancer Screening

Approximately 5-10% of breast cancer cases and 15-20% of ovarian cancer cases are thought to be due to a hereditary predisposition. In women breast, ovarian and endometrial cancers are the cancers with highest hereditary predisposition. The Women Hereditary Cancer panel is designed to provide broad genetic analysis of a patient's hereditary breast, ovarian, and endometrial cancer risks to identify the causative mutation. Breast, ovarian, and endometrial cancer risks can be highly correlated when caused by specific inherited cancer predisposition syndromes, such as HBOC or Lynch syndrome. An individual who develops one of these malignancies due to an inherited predisposition is also at an increased risk of developing one of the others as well.

## Hereditary Breast and Ovarian Cancer Screening

Specific patterns of hereditary breast and ovarian cancers are linked to pathogenic or likely pathogenic variants in the BRCA 1 / 2 genes. Additional high-risk breast and ovarian cancers predisposing genes include ATM, BARD1, BRIP1, CDH1, CHEK2, EPCAM, MLH1, MRE11A, MSH2, MSH6, NBN, NF1, PALB2, PMS2, PTEN, RAD51C, RAD51D, STK11, TP53, XRCC2. Routinely, to identify hereditary breast and ovarian cancer risk only BRCA 1 and 2 genetic testing is offered. But our Women's Hereditary Cancer panel offers 23 genes in addition to BRCA 1 and 2.

## Endometrial Cancer Screening

Women who have a family history of Hereditary Non-polyposis Colon Cancer (HNPCC) have an increased risk for carrying the HNPCC genetic abnormality. Studies suggest that women who carry this genetic abnormality have upto 60% risk of developing Endometrial cancer. HNPCC is caused by the inheritance of a predisposing mutation in DNA mismatch repair genes. The mutation confers increased risks for a particular spectrum of cancers (colon, ovarian, stomach, urinary tract and biliary tract). Our Women's Hereditary Cancer panel includes genes relevant to endometrial cancer including HNPCC.

### GENES ANALYZED

ATM	MLH1	PTEN
BARD1	MRE11A	RAD51C
BRCA1	MSH2	RAD51D
BRCA2	MSH6	STK11
BRIP1	MUTYH	TP53
CDH1	NBN	XRCC1
CHEK2	NF1	XRCC2
EPCAM	PALB2	
FGFR2	PMS2	

**ScreenGene™** analyzes genes implicated in hereditary cancers using World Class Next Gen Sequencing + Sanger Sequencing Platforms to assess the genetic risk of the individual.\*

*\*NCCN - National Comprehensive Cancer Network : Guidelines V3.2019 /  
Center for Disease Control and Prevention /  
American Society of Clinical Oncology and other credible studies.*

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