ONCOMET
Conclusive Oncology Diagnosis

METROPOLIS
The Pathology Specialist

# NextGen BRCA 1 & 2

## Therapeutic Decision Making in Breast and Ovarian Cancer based on BRCA1 and BRCA2 Mutation

## BRCA GENE IMPACT

| General Population | BRCA 1 | BRCA 2 | Age | Cancer Type |
|---|---|---|---|---|
| 13% | 55%-72% | 45%-69% | 70-80 years | Breast cancer |
| 1.2% | 39%-44% | 11%-17% | 70-80 years | Ovarian cancer |

## Breast and Ovarian cancer in Indian Women

- 1.4 lakh New cases of Breast Cancer
- Cancer Incidence from 100 to 200 per lakh by 2025
- 3 Times more case of familial Breast and Ovarian Cancer
- Mortality to Incidence ratio with 1/28 women likely to develop during lifetime

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## Benefits of BRCA1/2 Genetic testing

- A positive test result may allow people to make informed decisions about their future health care.

## Who Should consider Testing

Family history of

- Breast, Ovarian, fallopian tube, Peritoneal, Prostate or Pancreatic cancer
- Breast Cancer diagnosed before age of 45
- Two or more relatives of Ovarian cancer
- 60 — Individuals with triple negative (Estrogen receptor, progesterone receptor and Her2/neu) breast cancer at < 60 years of age
- Male Breast cancer
- Ashkenazi Jewish descent with personal history of Breast, Ovarian or Pancreatic cancer

## Variant Categorization

- Pathogenic
- Likely Pathogenic
- VUS ( Variants of unknown significance)

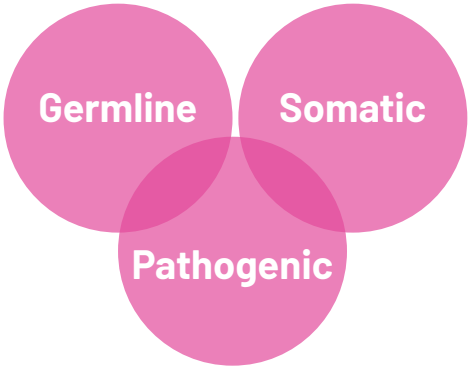
**Metropolis is the only lab to give conclusive opinion on variants**

## Germline vs Somatic

- Germline mutations are heritable and present in every cell of a person's body, thus testing only needs to be done once.

## Somatic mutations are acquired genetic changes

- Tumor biopsy or surgical specimens, or any other fluid materials that contain malignant cells, e.g., malignant pleural effusion or ascitic fluid




## Most Tumor NGS reports are silent on whether an identified pathogenic mutation is germline or somatic in origin[1]

- The most conclusive way is to test an accompanying germline sample (e.g., blood)

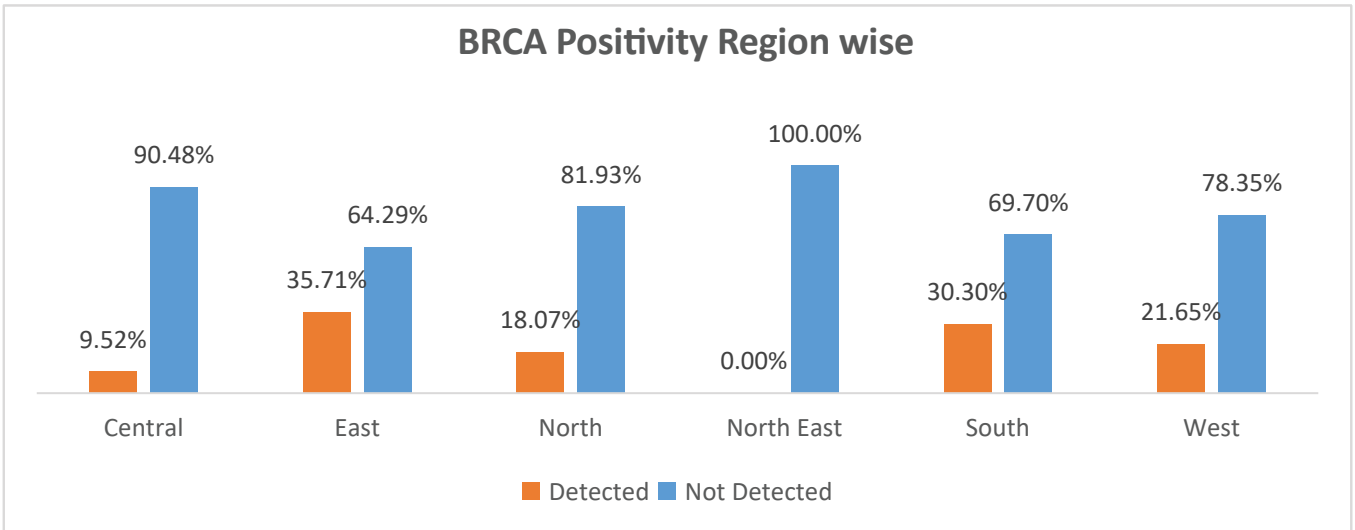
## Tumor BRCA1/2 testing can detect any pathogenic germline mutations

- Low false positive rates
- 90% concordance between somatic and germline variant findings Specimen: pleural effusion, ascitic fluid

## Probability of finding an incidental pathogenic BRCA1/2 mutation is ~2–4%, of which ~80% is germline in origin[4]

Metropolis Data

BRCA1 and BRCA2 variants were identified in 151 of 625 individuals (24.16%)



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# BRCA test by Metropolis

**NGS Based:** Genomic DNA analysis to identify multiple pathogenic mutations

**Mutations Covered:** Single Nucleotide variations(SNVs), short insertions deletion (InDels)

**High accuracy and sensitivity** to detect SNVs and Indels is 100%

## Test Utility

- Early detection, Genetic predisposition and management of breast cancer
- Hereditary risk assessment
- Disease Prognostication
- Theranostic value (Therapeutics+ Diagnostics)

TEST INFORMATION

| Test code | Test/Profile Name | Patient fees in Rs | Test Schedule | Reported on | Method |
|---|---|---|---|---|---|
| B0077 | NextGen BRCA Comprehensive (NGS & MLPA), Blood | 30000 | Daily: 7:30 am | 4 weeks | NGS & MLPA |
| B0106 | NextGen BRCA Somatic, FFPE tissue | 22000 | Daily: 7:30 am | 25th day | NGS |
| B1032 | NextGen BRCA Germline, Blood | 16000 | Daily : 9:00am | 15th day | NGS |

## Oncomet Expertise

- One stop Solution for Oncology tests
- Highly experienced pool of Oncopathologists and Panelist
- Capabilities Include Morphology to Molecular
- Recipient of 2 Gold Awards for Exceptional contributions to Women's cancer care and Management at cancer care summit and high-end diagnostic services at 8th India health and wellness award


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6.Cavanagh H, Rogers KMA. The role of BRCA1 and BRCA2 mutations in prostate, pancreatic and stomach cancers. Hered Cancer Clin Pract 2015;13:16.