PANGENIA

# PanBRCA™ 遺傳性乳癌及卵巢癌基因篩查

✓ 及早檢測．及早預防
✓ 一生人只做一次檢測

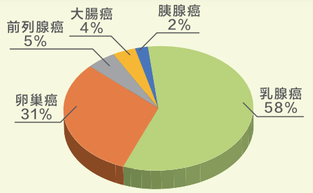
專 業 I 全 面 I 精 確

## 預知、預防、未雨綢繆

**乳癌**是本港女性中第**3**位致命的癌症，僅次於**肺癌和大腸癌**。單單在2018年，共有**753**名女性死於乳癌，佔女性癌症死亡人數的12.4%。乳癌在男性中偶然也會發生。在2017年，共有18宗男性乳癌新症。

- 根據最新2020年的研究指出，全中國就估計有高達**500多萬**人携帶BRCA致病基因突變
- 而以亞洲人為例，BRCA基因出現致病突變便代表了受測者一生中約有**87%**機率患上乳癌，44%機率患上卵巢癌及其他癌症（例如胰臟癌，大腸癌，前列腺癌等），由於多數的癌症早期並沒有徵兆，大部分病人發現患上癌症時都已經是晚期，大大增加治療的難度。

**BRCA基因突變引起的癌症分佈比例，以乳癌佔最高（58%），其次是卵巢癌（31%）**




## 誰應該考慮進行PanBRCA™ 遺傳性乳癌及卵巢癌基因篩查

| | |
|---|---|
| 早發性乳癌（45歲以下） | 家族有3個或更多的乳癌病例 |
| 雙側或多發性乳癌 | 家族有3個或更多的乳癌，卵巢癌和/或胰臟癌病例 |
| 男性乳癌（於任何年齡） | 家族有3個或更多的乳癌，子宮癌和/或甲狀腺癌病例 |
| 同時有乳癌和卵巢癌的女士 | 多個關係密切的家庭成員有乳癌和其他癌症 |


參考資料：
1. E.R. Copson et al. (2018), Germline BRCA mutation and outcome in young-onset breast cancer (POSH): a prospective cohort study. Lancet Oncol, 19:169-180
2. K. Akoa et al. (2012), BRCA Mutation Frequency and Patterns of Treatment Response in BRCA Mutation - Positive Women With Ovarian Cancer: A Report From the Australian Ovarian Cancer Study Group. Journal of Clinical Oncology, 30(21):2654-2663
3. D.J. Gallagher et al. (2010), Germline BRCA Mutations Denote a Clinicopathologic Subset of Prostate Cancer. Clinical Cancer Research, 16(7):2115-2121
4. B.L. Nielli et al. (2004), BRCA1 and BRCA2 Founder Mutations and the Risk of Colorectal Cancer. Journal of the National Cancer Institute, 96(1):1-5-21
5. S. Holter et al. (2015), Germline BRCA Mutations in a Large Clinic-Based Cohort of Patients With Pancreatic Adenocarcinoma. Journal of Clinical Oncology, 33(28):3124-3129


## 為亞洲人而設 專門針對常見於亞洲人的基因突變

- 利用次世代定序技術（NGS）及最先進技術，從而偵測BRCA1&2上的基因突變，基因重組和大段基因缺失
- PanBRCA™遺傳性乳癌及卵巢癌基因篩查(BRCA1&2)針對亞洲人的基因突變而設，致病突變覆蓋率高達**95%**

## 準確及高品質 先進數據分析技術值得信賴

PanBRCA™採用先進的數據分析技術，相較於市場上大多數的BRCA測試覆蓋率及分析靈敏度為高，與此同時，為保證測試結果準確無誤，我們會以雙重方法來確認檢測結果

*****由美國病理學會所舉辦能力驗証計劃，本檢測服務一直以來獲得極高評價*****


參考資料：
1. A.R. Hartman et al. (2012), Prevalence of BRCA Mutations in an Unselected Population of Triple-Negative Breast Cancer. Cancer. 118(11):2787-2795
2. E. Warner et al. (1999), Prevalence and Penetrance of BRCA1 and BRCA2 Gene Mutations in Unselected Ashkenazi Jewish Women With Breast Cancer. Journal of the National Cancer Institute. 91(14):1241-1247
3. H.A. Risch et al. (2001) Prevalence and Penetrance of Germline BRCA1 and BRCA2 Mutations in a Population Series of 649 Women with Ovarian Cancer. Am. J. Hum. Genet. 68(3):700-710


## 價格親民 無需高昂費用的優質基因檢測

有別於市面上其他BRCA基因測試的高昂費用，PanBRCA™透過獨特技術大大減低了檢測所需的費用。PANGENIA務求在提供高品質檢測服務的同時，以廉宜的價格向普羅大眾推廣基因檢測以及癌前健康管理的重要性

| | 其他測試 (HRM) | PanBRCA™ (OBS) | PanBRCA™ (OBF) |
|---|---|---|---|
| BRCA 基因突變覆蓋 % | 73-90% | 高達 90-95% | 高達 99.9% |
| 報告 (TAT) | 時間不定 | 14-20個工作天 | |
| 價錢 | $$$$$ | $ 親民價格及價錢超值 | |
| 優勢 | ✗ | ✓ 黃金標準、全面覆蓋 | |

## PanBRCA™ 測試流程

- 透過抽取 6ml EDTA 血液或 10支口腔棒採集樣本
- 報告14–20個工作天送出
- 100%香港本地檢測，作分析及專業檢測報告
- 由遺傳學顧問提供專業報告解讀

## 常見問題

**Q: PanBRCA™遺傳性乳癌及卵巢癌基因篩查是甚麼？**
A: 透過次世代測序技術（NGS）檢查是否帶有BRCA1或BRCA2基因突變，以作更詳細的疾病風險評估。

**Q: 為什麼要進行PanBRCA™遺傳性乳癌及卵巢癌基因篩查？**
A: 透過進行PanBRCA™遺傳性乳癌及卵巢癌基因篩查，可以實現對相關癌症的早預防、早發現、早治療，對於高風險的人士尤其重要。

**Q: PanBRCA™遺傳性乳癌及卵巢癌基因篩查可能帶來的好處是？**
A: 可及早了解自身患上遺傳性乳癌、卵巢癌及相關癌症的風險，有助提高預防和治療成效。

**Q: PanBRCA™遺傳性乳癌及卵巢癌基因篩查與傳統HRM檢測的分別？**
A: PanBRCA™是傳統HRM的升級版檢測，利用先進的次世代定序技術（NGS）掃瞄BRCA1 & 2 基因上所有外顯子（Exon）的基因突變，基因重組和大段基因缺失，相對上比較準確及基因突變覆蓋較高，而HRM只是掃瞄BRCA1&2部份較常出現突變的區域，但由於BRCA1 & 2的致病突變可以出現在整個基因的不同地方，傳統HRM方法可能出現檢測遺漏的情況。

參考資料：香港衛生署

14–20 個工作天 完成檢測

## 新亞生命，專業保障

- **簡單** 只需6毫升EDTA血液或10支口腔棒即可完成檢測
- **品質** 香港首家擁有NGS儀器的私營化驗所
- **專業** 100%香港本地化驗所擁有專業的教授和博士團隊

香港服務名牌 HONG KONG TOP SERVICE BRAND

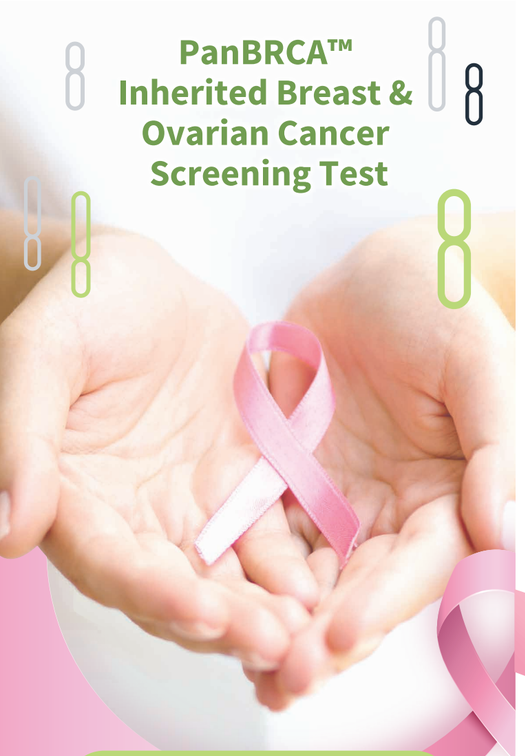
友商有良 Partner Employer Award 嘉許計劃 2019

商界展關懷 caringcompany 2019-20 Awarded by The Hong Kong Council of Social Service 香港社會服務聯會頒發

S&M-PAN-LT-BRCA-v2-20210114

PANGENIA

# PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test



- EARLY DETECTION · EARLY PREVENTION
- ONLY DO IT ONCE IN A LIFETIME

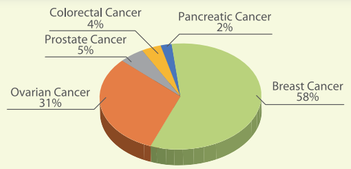
**PROFESSIONAL | COMPREHENSIVE | ACCURATE**

## EARLY DETECTION, EARLY DIAGNOSIS AND EARLY TREATMENT

**Breast cancer** is the **THIRD** most deadly cancer among women in Hong Kong, second only to **lung cancer and colorectal cancer**. In 2018 alone, a total of **753** women died of breast cancer, accounting for 12.4% of female cancer deaths. Breast cancer also happens occasionally in men. In 2017, there were 18 new cases of male breast cancer.

- According to the latest 2020 study, it is estimated that more than **5 million** people in China carry BRCA disease-causing gene mutations
- And taking Asians as an example, the presence of a disease-causing mutation in the BRCA gene represent a **87%** chance of developing breast cancer, a 44% chance of developing ovarian cancer and also an increased risk for other types of cancer (such as pancreatic cancer, colorectal cancer, prostate cancer etc.) during their lives. Most cancer types show no symptoms in early stage. Thus, most patients are already in late stages when they are diagnosed with cancers, which greatly increases the difficulty of treatment.

**The distribution of cancers caused by inherited BRCA genes mutations is breast cancer (58%), followed by ovarian cancer (31%)**




## Who should consider PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test?

| | |
|---|---|
| Early onset breast cancer(<45years old) | 3 or more cases of breast cancer in the family |
| Bilateral or multiple primary breast cancers | 3 or more cases of breast, ovarian and/or pancreatic cancer in the family |
| Male breast cancer at any age | 3 or more cases of breast, uterine and/or thyroid cancer in the family |
| Breast and ovarian cancer in the same women | Multiple close family members with breast and other cancers |


Reference:
1. E.R. Copson et al. (2018), Germline BRCA mutation and outcome in young-onset breast cancer (POSH): a prospective cohort study. Lancet Oncol, 19:169-180
2. K. Abuja et al. (2012), BRCA Mutation Frequency and Patterns of Treatment Response in BRCA Mutation - Positive Women With Ovarian Cancer: A Report From the Australian Ovarian Cancer Study Group. Journal of Clinical Oncology, 30(21):2654-2663
3. D.J. Gallagher et al. (2010), Germline BRCA Mutations Denote a Clinicopathologic Subset of Prostate Cancer. Clinical Cancer Research, 16(7):2115-2121
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## Specifically designed for Asians - common Asian-specific gene mutations

- Using next-generation sequencing (NGS) and the most advanced technology to detect any genetic mutations, including gene rearrangements and large deletions of BRCA1&2 genes, related to hereditary breast cancer and ovarian cancer.
- PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test is designed for screening Asian genetic mutations, with a coverage up to **95%**.

## High Accuracy Trustworthy Bioinformatics

PanBRCA™ uses advanced data analysis technology to achieve a higher detection coverage and analytical sensitivity than most other BRCA tests in the market. A confirmatory test will be performed in dual to ensure the highest accuracy.

*****This screening test is highly rated with exceptional performance in the Proficiency testing program provided by the College of American Pathologist (CAP)*****


Reference:
1. A.R. Hartman et al. (2012), Prevalence of BRCA Mutations in an Unselected Population of Triple-Negative Breast Cancer. Cancer, 118(11):2787-2795
2. E. Warner et al. (1999), Prevalence and Penetrance of BRCA1 and BRCA2 Gene Mutations in Unselected Ashkenazi Jewish Women With Breast Cancer. Journal of the National Cancer Institute, 91(14):1241-1247
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## High-Quality Genetic Tests at an Affordable Price

Different from other expensive BRCA genetic tests in the market, PanBRCA™ has greatly reduced the cost of testing with its advanced technology. PANGENIA strives to educate the public regarding the importance of genetic screening, while providing high-quality testing services at an affordable price.

| | Other Tests (HRM) | PanBRCA™(OBS) | PanBRCA™(OBF) |
|---|---|---|---|
| BRCA genes Mutation Coverage % | 73-90% | Up to 90-95% | Up to 99.9% |
| Turnaround time (TAT) | Irregular | Within 14-20 working days | |
| Price | $$$$$ | $ Affordable and Value-for-money | |
| Superiority | ✗ | ✓Gold Standard & Comprehensive Coverage | |

## PanBRCA™ Screening Test

- Collect samples by drawing 6ml EDTA blood or 10 buccal swabs
- within 14-20 working days
- 100% Hong Kong local laboratory, analysis and professional test report
- Professional report interpretation provided by genetics consultant

## Frequently asked questions (FAQs)

**Q: What is PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test?**

A: Through next-generation sequencing technology (NGS) to check whether there are BRCA1 or BRCA2 gene mutations for more detailed disease risk assessment.

**Q: Why do need to perform PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test?**

A: PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test can achieve early prevention, early detection, and early treatment of related cancers, which is especially important for high-risk individuals.

**Q: What is the possible benefits of PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test?**

A: Early understanding of the risk of hereditary breast cancer, ovarian cancer and related cancers can help improve the effectiveness of prevention and treatment.

**Q: What is the difference between PanBRCA™ Inherited Breast & Ovarian Cancer Screening Test and traditional HRM testing?**

A: PanBRCA™ is an upgraded version of traditional HRM testing. It uses advanced next-generation sequencing technology (NGS) to detect any genetic mutations, including gene rearrangements and large deletions of BRCA1&2. It is relatively more accurate and has higher gene mutation coverage, while HRM only scans the areas where mutations are more common in BRCA1&2. However, the pathogenic mutations of BRCA1 & 2 can appear in different places in the entire gene, traditional HRM methods may have missed detection, which affects future prevention and treatment.

Reference: Department of Health(HKSAR)

## PanBRCA™ Screening Test

Completed within 14-20 working days

| | |
|---|---|
| Simple | Only 6 ml of EDTA blood or 10 buccal swabs is required to complete the test |
| Quality | The FIRST Hong Kong private laboratory with NGS instruments |
| Professional | 100% Hong Kong local laboratory has a team of professional professors and doctors |

Partner Employer Award 嘉許計劃 2019

caringcompany 2018-20 Awarded by The Hong Kong Council of Social Service 香港社會服務聯會頒授

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