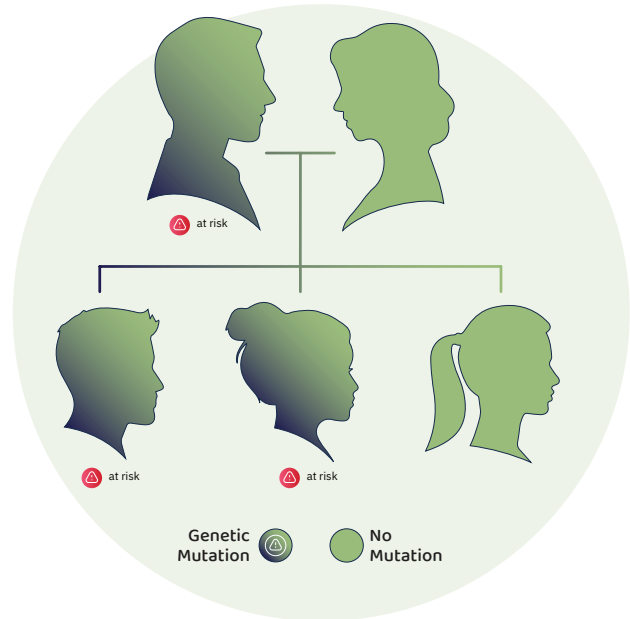




Identify and Predict Risk, and enhance Early Detection to support Timely Interventions with Germline Testing for Cancer



Introduction

In the realm of cancer, we have a triad of genetic origins which includes hereditary, sporadic, and familial origins. Hereditary cancers, a smaller but significant 5% to 10%, arise from specific genetic mutations or inherited predispositions that sharply heighten cancer risk ^{1,2}. Sporadic cases, the dominant majority at 70% to 80%², emerge from non-germline tissues, influenced by environmental factors and the capricious hand of chance. Familial cases, constituting around 15% to 20%², stem from shared environmental exposures and genetic backgrounds within families. In the realm of precision oncology, gauging an individual's risk for hereditary cancers stands as a pivotal cornerstone.

In the world of genetics, we encounter two key players: germline and somatic mutations. Germline mutations are like the legacy of our genetic past, originating in eggs or sperm and being carried forward to the very inception of a new life. These mutations are the architects of our genetic blueprint, influencing every cell's design as the organism grows. On the other hand, somatic mutations are the improvisers, emerging during one's lifetime. They don't influence future generations, keeping their innovations to the cells that come from their original source. It's the difference between building a lasting legacy and

making personal, in-the-moment changes.

Current challenges in germline testing for hereditary cancer

- **Cost and Accessibility:** Germline testing can be expensive, limiting access for many individuals. Wider accessibility and cost reduction are essential for more comprehensive adoption.
- **Privacy and Data Security:** As genetic data is sensitive, ensuring the privacy and security of this information is critical, particularly in the age of digital health records.
- **Data Interpretation:** While genetic testing generates a wealth of data, interpreting and communicating these results effectively to both healthcare professionals and patients is a challenge.
- **Equity in Healthcare:** Ensuring that germline testing is accessible to individuals of all backgrounds and socioeconomic levels is an ongoing challenge.
- **Risk Prediction Accuracy:** While germline testing can provide risk estimates, predicting the exact onset and course of hereditary cancers with high accuracy remains a challenge.

Our solution

Unlock the power of Hereditary Cancer testing with OncoRisk[®], a cutting-edge genetic assessment

that delves into the family's genetic history. By scrutinizing specific genetic changes passed down through generations, OncoRisk® helps to uncover the susceptibility to various types of cancer due to inherited factors. This invaluable insight empowers to take control of your health, enabling more precise and personalized medical management that can potentially lower risk of developing cancer.

This sophisticated multi-gene panel, identifies elevated risks associated with over 11 hereditary and familial cancers. Our advanced approach includes state-of-the-art germline DNA-based next-generation sequencing (NGS) analysis, exploring the coding regions of 74 genes linked to Hereditary Cancer. With this comprehensive evaluation, a well-rounded test result will be generated from the examination of these genes, complemented by clinical and family history data, providing you with a complete picture of hereditary cancer risk. This precision approach empowers you to make informed choices, from innovative systemic therapies like adjuvant PARP inhibitors for breast cancer to refined surgical decisions.

OncoRisk® Reporting - Harnessing the Power of AI and ML for Precision Oncology: OncoRisk® test comes with a cutting-edge reporting solution that combines the power of artificial intelligence (AI) and machine learning (ML) along with the expertise of oncologists.

By providing clear, actionable genomic findings and a secure, data-driven platform for collaboration and decision-making.

The OncoRisk® report is a powerful tool for oncologists, providing clear, unambiguous, and actionable genomic findings that are essential for developing patient-specific treatment plans. The report provides a detailed description of patient-specific genetic mutations and pathways in accordance with international guidelines and is based on highly reliable and internally curated knowledge databases (iKb).

At the heart of the OncoRisk® report is iCARE™, the virtual genomic lab of oncologists.

AI-powered precision monitoring iCARE™ console is a virtual genomic lab designed by the oncologists for the oncologists.

iCARE™ allows doctors to visualize genomic variants in real-time, access high-level interactive genomic reporting, and leverage a rich database of reference literature.

Benefits of OncoRisk® Germline Test

- **Identifying Hidden Risks:** Helps pinpoint high-risk profiles among family members, even if they haven't been affected by cancer.
- **Predict and Prevent:** Helps foresee potential risks, enabling early detection and proactive measures.

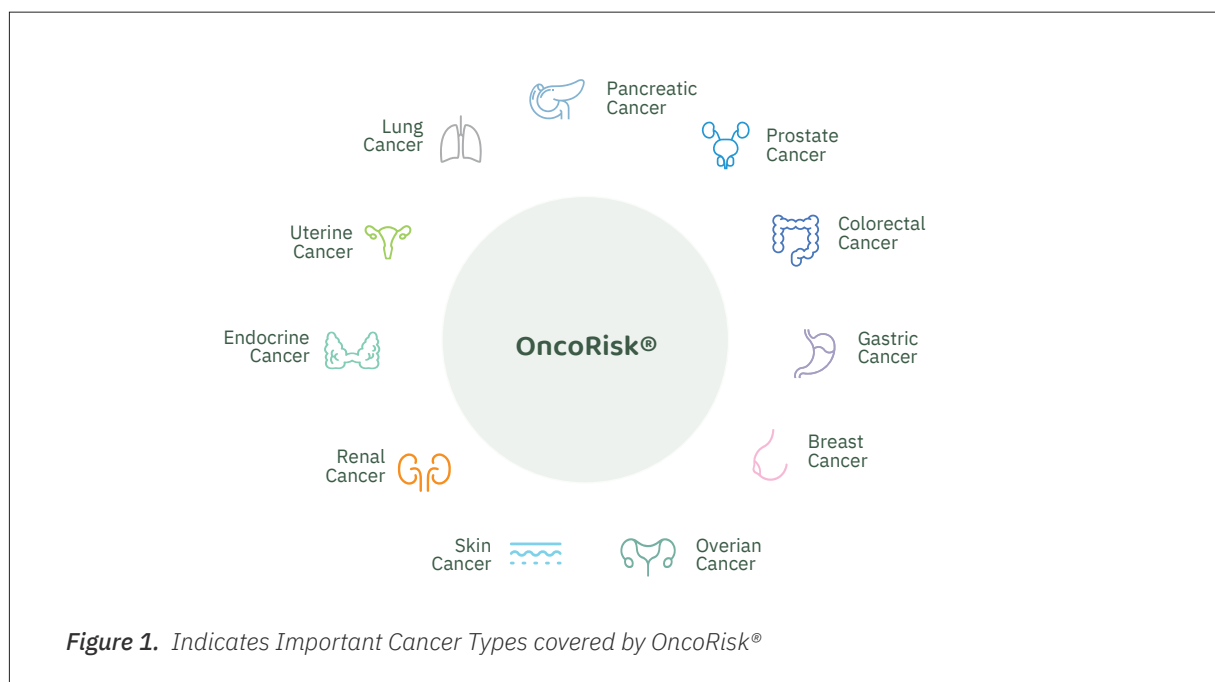


Figure 1. Indicates Important Cancer Types covered by OncoRisk®

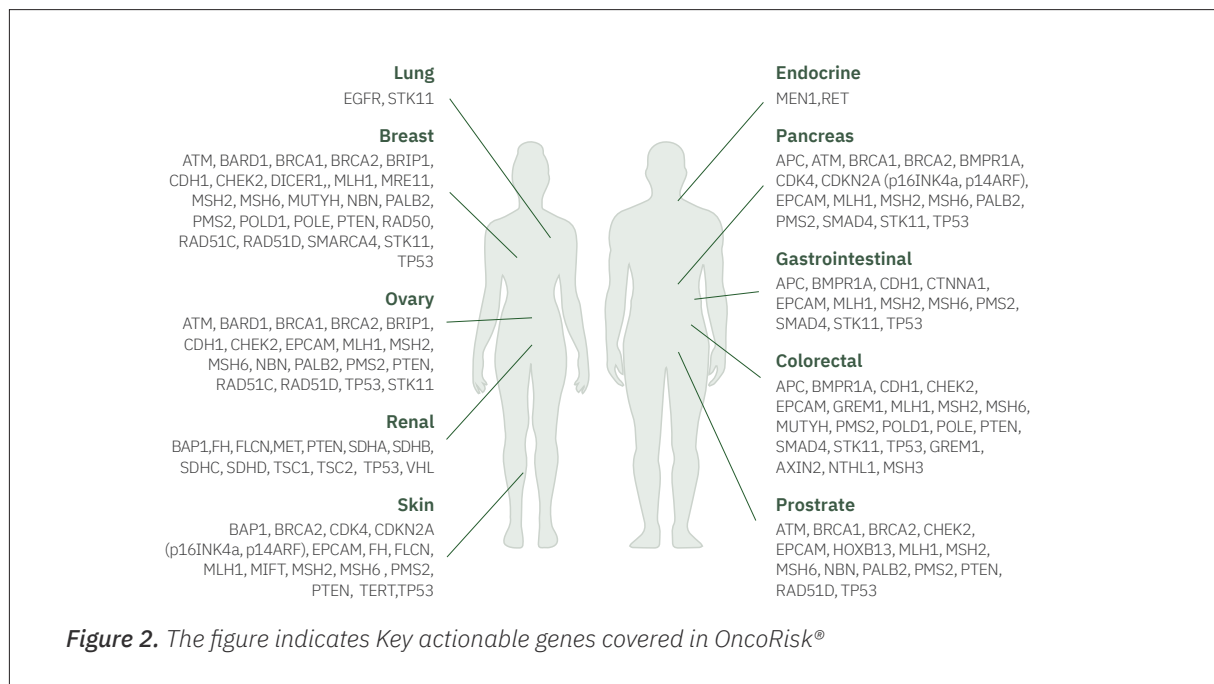


Figure 2. The figure indicates Key actionable genes covered in OncoRisk®

- **Personalized Vigilance:** Helps implement tailored screening for high-risk individuals, staying one step ahead of cancer.
- **Timely Triumph:** Helps early intervention and paves way for better treatment results, extending remission.
- **Empowering Choices:** Helps make informed decisions, including proactive surgeries like prophylactic mastectomy and bilateral salpingo-oophorectomy.

Important features of OncoRisk®

- A Unified Approach to Genetic Testing, Risk Stratification, and Tailored Care Planning
- Inclusion of Pre-test Genetic Counselling
- Coverage of more than 11 distinct hereditary and familial cancers
- Coverage of spectrum of genetic alterations like single nucleotide variants (SNVs), small insertions and deletions (INDELS) based on NCCN guidelines
- AI-Enhanced precision through our in-house precision oncology console, iCARE™™
- Comprehensive report with actionable insights
- Sequencing depth of 500x with an average 200x
- Comprehensive gene coverage including 98-100% of all genes
- Inclusion of post-test genetic counselling

Conclusion

OncoRisk® germline testing propels precision health, guiding individuals with their unique genetic profiles, supported by genetic counselling. As the field broadens, integrating OncoRisk® data with electronic health records ensures faster, more precise decisions. The growing wealth of genetic information improves cancer risk prediction and earlier interventions. Challenges remain, particularly in ensuring equal access. In summary, the role of OncoRisk® in hereditary cancer represents a transformative shift, promising to save lives through personalized risk prediction, thereby marking a milestone in the hereditary cancer battle.

OncoRisk®: Your Path to Better Health

1. <https://www.cancer.org/cancer/risk-prevention/genetics/family-cancer-syndromes.html>
2. <https://www.nccs.com.sg/giving/hereditary-cancer>

Notes:



About OneCell Diagnostics

OneCell Diagnostics is on a mission to democratize precision cancer monitoring and testing to make cancer testing an Actionable, Accessible, and Affordable solution. We bring the power of Genomics data and Artificial Intelligence (AI) to healthcare. We intend to impact millions of cancer patients' lives by providing high-quality precision therapy options to all needful patients worldwide.

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