PreSENTIA®
hereditary cancer

Detailed genetic analysis of hereditary cancer

MEDICOVER GENETICS

WHAT IS **PreSENTIA**?

PreSENTIA is a genetic test for hereditary cancer. It identifies hereditary genetic alterations which are implicated in hereditary cancer syndromes and increase the risk of developing cancer in the future.

CLINICAL UTILITY

- Identify early on the clinically actionable genetic alterations that increase the risk of hereditary predisposing cancer syndromes and cancer development
- Take prophylactic measures to minimize the risk of cancer development in the future
  - Recommend screening tests at key time intervals
- Take actionable steps for the best clinical management of the patient
- Identify family members who also carry genetic mutations with cancer predisposition

WHO IS THIS TEST FOR?

The patient's medical family history, their ethnicity, and any physical findings linked to cancer should always be taken into consideration. PreSENTIA is recommended for individuals:

- with personal or family history of a hereditary cancer syndrome
- who have been diagnosed with cancer at an unusually young age
- with multiple types of primary tumors
- who are already diagnosed with cancer or are suspected of having a germline mutation with cancer susceptibility
- with rare cancer types
- with unusual cases of a specific cancer type (i.e. breast cancer in men)
- who belong to a specific racial or ethnic group (i.e. Ashkenazi Jewish)
- with suspicion of having a cancer syndrome (i.e. Li-Fraumeni syndrome and others)

The above information was obtained from professional bodies including National Cancer Institute, American College of Obstetricians and Gynecologists (ACOG) and American Society of Clinical Oncology (ASCO).

PreSENTIA TESTS FOR:

GENETIC ALTERATIONS

Genetic alterations are changes in the DNA sequence which can initiate tumor development. The alterations tested by PreSENTIA are inherited and can pass down to families increasing the risk of tumor formation. Knowing the patient's inherited genetic alterations, can help you identify the best clinical strategy to reduce the risk of cancer development.

PreSENTIA PANELS

PreSENTIA offers **19 panels** that test for clinically actionable genetic alterations in genes of interest. Comprehensive full exonic coverage* is utilized to maximize the identification of the genetic alterations which can be responsible for cancer development. Genetic alterations tested include single nucleotide variants (**SNVs**), insertions and deletions (**INDELs**), and copy number alterations (**CNAs**).

The genes tested also cover **24** of the most common **hereditary cancer syndromes** which increase the risk of cancer in the future, including Lynch syndrome, Li-Fraumeni syndrome, Familial adenamatous polyposis, Peutz-Jeghers syndrome, Fanconi anemia syndrome and others.

Pan-Cancer	62 genes
Breast & Gynecological	26 genes
Breast / Gynecological Guidelines based	19 genes
Breast High-risk	7 genes
BRCA1 / BRCA2	2 genes
Colorectal	17 genes
Colorectal High-risk	10 genes
Colorectal Non-polyposis	5 genes
Colorectal Polyposis Syndrome	7 genes
Gastric	14 genes
Myelodysplastic Syndrome / Leukemia	24 genes
Prostate	15 genes
Pancreatic	17 genes
Renal	13 genes
Skin (XP-associated)	9 genes
Familial Melanoma	7 genes
Paraganglioma / Pheochromocytoma	6 genes
Parathyroid	1 gene
Thyroid	1 gene

**Exceptions on regions containing repeats, sequences of high homology such as pseudogene and segmental deletions, or extreme GC-content.*

RECOMMENDATIONS FROM PROFESSIONAL BODIES

"A hereditary cancer risk assessment is the key to identifying patients and families who may be at increased risk of developing certain types of cancer."

ACOG, 2019[1]

"It is generally recommended that, when possible, a family member with cancer have genetic counseling and testing first, to identify with more certainty if the cancer in the family is due to an inherited genetic variant."

National Cancer Institute[2]

CASE STUDY

18-year-old male with a clinical diagnosis of polyposis (benign)

- No family history of polyposis

PreSENTIA Colorectal Polyposis Syndrome results

- A gross genomic deletion of the entire coding sequence and promoter 1A of the APC
- This deletion is associated with familial adenomatous polyposis (FAP), an autosomal dominant disorder
- Medical management recommendations include: annual colonoscopy, endoscopic evaluation, chemoprevention (in selected patients), duodenal surveillance, ultrasound for thyroid cancer, small bowel visualisation

PreSENTIA accurately identified the inherited genetic alterations associated with increased cancer risk, while offering a clinical management plan tailored to the patient.

1. *Hereditary Cancer Syndromes and Risk Assessment: ACOG Committee Opinion Summary, Number 793. Obstet Gynecol. 2019 Dec;134(6):1366-1367. doi: 10.1097/AOG.0000000000003563. PMID: 31764755.*

OUR **PROPRIETARY** TECHNOLOGY PLATFORM

Our technology platform has been thoroughly assessed and validated for its precision.

TARGETED TECHNOLOGY AND NOVEL BIOINFORMATICS

PreSENTIA is based on a novel, **Target Capture Enrichment Technology** which utilizes Next Generation Sequencing, has been developed in-house and ensures high accuracy and precision. Combined with novel **bioinformatic pipelines**, PreSENTIA provides accurate detection of genetic variants even at low allele frequencies. Our high read-depth analysis enables for increased sensitivity and specificity providing reliable results.

GENETIC ALTERATION DETECTION

Multi-engine analysis incorporating innovative bioinformatic pipelines analyze the sequencing data. These enable **accurate detection** of genetic alterations, even at low levels.

FULL EXONIC COVERAGE

PreSENTIA screens for **all coding regions*** on the genes of interest, increasing the chances of identifying any pathogenic or likely pathogenic mutation. It also targets adjacent non-coding sequences. PreSENTIA can detect:

- SNVs
- INDELs
- CNVs

2. *Genetic Testing for Inherited Cancer Susceptibility Syndromes. National Cancer Institute. Retrieved 07 July 2023 from https://www.cancer.gov/about-cancer/causes-prevention/genetics/genetic-testing-fact-sheet*

BENEFITS OF **PreSENTIA**

VALUABLE
Identifies genetic mutations linked to cancer

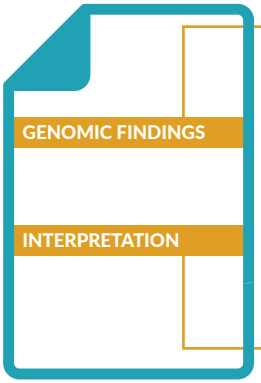
SAFE
Non-invasive sample collection

RELIABLE
Proven technology with robust results

THOROUGH
Full exonic coverage*

WHAT WILL THE **REPORT** TELL ME?

A comprehensive report will be sent to you, describing the genetic alterations identified and providing detailed interpretation of the results. Receiving early information about your patient's risk of developing cancer empowers you to identify the appropriate prophylactic measures and therapy options that will benefit your patient, as well as their family members who might be affected. In case the patient is already diagnosed with cancer, PreSENTIA can inform whether the genetic alterations that caused cancer development are hereditary.



CLINICALLY SIGNIFICANT VARIANT DETECTED
Pathogenic and likely pathogenic variants are reported following the American College of Medical Genetics and Genomics (ACMG) classification guidelines.

NO CLINICALLY SIGNIFICANT VARIANT DETECTED
No disease-causing genetic variant has been identified in the genes tested.

VARIANTS OF UNCERTAIN SIGNIFICANCE
A genetic change has been detected, but it is currently unknown whether that change is associated with cancer development.

Detailed interpretation of the results is provided. The variant summary as well as the clinical significance of the genetic alterations identified is reported, along with recommendations on the next steps after PreSENTIA.

Variant re-evaluation can also be requested by healthcare providers at defined timeframes.

WHAT CAN I DO AFTER **PreSENTIA**?

- Inform your patient about the results of PreSENTIA and recommend genetic counseling
- Recommend screening tests at key interval timepoints for early cancer detection
- Recommend prophylactic measures, if applicable
- Recommend testing for immediate family members who might be at risk

**Exceptions apply*

HOW TO ADMINISTER **PreSENTIA**?

Recommend the appropriate **PreSENTIA** panel to your patient

Collect a buccal swab from your patient

Send the sample to **Medicover Genetics**

The sample will be analyzed at **Medicover Genetics** laboratories

The results will be sent to you within 2-3 weeks from sample receipt

MORE **QUESTIONS**?

If you have additional questions or concerns, please contact us at **info.genetics@medicover.com**

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