MEDICOVER
GENETICS

HEREDITARY CANCER PANELS

Predict&Prevent

Physician Information

WHAT IS HEREDITARY CANCER PREDICT&PREVENT

PREDICT

90-95% of most cancers occur sporadically without an inherited genetic cause, while 5-10% are associated with a genetic cause, for which we offer **14 separate gene panels** covering >30 cancer types spanning across >10 organs, and **one large targeted comprehensive panel** that includes 54 genes associated with many cancer types. The outcome of the test can be a risk estimation of developing cancer from a genetic cause.

PREVENT

Estimating the risk of developing hereditary cancer allows the person to be proactive about their health by taking preventative measures and undergoing routine monitoring.

WHO COULD BENEFIT FROM THIS TEST

- People with relatives diagnosed with cancer at a young age (<50)
- People with a strong family history of cancer (three or more close relatives diagnosed with cancer)
- Patients diagnosed with cancer and would like to know if there is a genetic cause

IMPORTANCE OF GETTING TESTED

If a person has an estimated high cancer risk, certain actions can be taken to reduce the likelihood of developing the cancer. Additionally, family members can be informed and encouraged to get tested. Our genetic counsellors can provide medical advice.

COMPREHENSIVE HEREDITARY CANCER PANEL

APC ATM BAP1 BARD1

BMPR1A BRCA1 BRCA2 BRIP1

CDC73 CDH1 CDK4

CDKN1B CDKN2A CHEK2

DICER1 EPCAM FH FLCN GREM1

MAX MEN1 MET MITF MLH1

MLH3 MSH2 MSH3

MSH6 MUTYH NBN NF1

NTHL1 PALB2 PMS2

POLD1 POLE POT1 PTCH1

PTEN RAD51C RAD51D RET

RNF43 SDHA SDHAF2

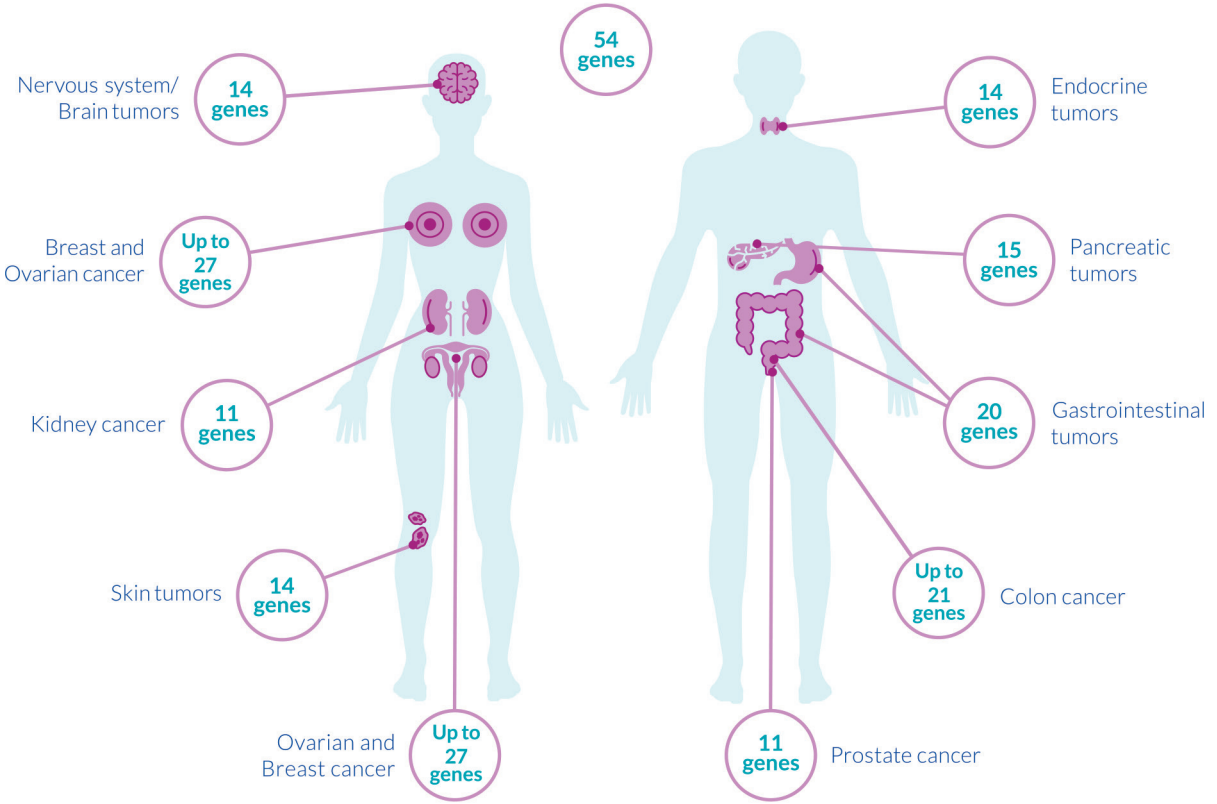
SDHB SDHC SDHD

SMAD4 STK11 SUFU

TMEM127 TP53 VHL

OUR PANELS

Comprehensive Hereditary Cancer Panel



Cross-organ panels

22 genes — Fanconi anemia

7 genes — Unspecific tumor syndromes

HOW TO ORDER THE TEST FOR YOUR PATIENT

STEP 1
Complete Hereditary Cancer Test Order Form (can be downloaded from our website)

STEP 2
A sample is collected at the nearest blood drawing point (accepted samples: EDTA blood, buccal swab)

STEP 3
Sequencing is performed in our accredited laboratory in Germany

STEP 4
A medical report is delivered

STEP 5
Genetic counselling by our local Medical Counsellors is available upon request

Step 3-4 takes 15-25 working days

Most genes included in our panels have been selected for highly correlating with the specific cancers. Therefore, many genes are clinically actionable and can guide preventative measures.

WHAT ARE THE POSSIBLE OUTCOMES OF THE TEST

A diagnostic report outlining the results of the sequencing analysis is provided. Changes in DNA sequences (variants) can be detrimental and eventually lead to cancer development.

We will report **pathogenic** and **likely pathogenic** variants, which are variant types that can increase the likelihood of developing cancer from a genetic cause.

Please note that if pathogenic variants are not identified, this does not preclude the possibility of developing cancer from unknown genetic factors or sporadic causes.

MEDICAL GENETIC COUNSELLING

We can provide expert medical interpretation of the results for the specialist physician and the patient, where needed. This includes advice on preventative measures and monitoring procedures where applicable.

TECHNICAL DETAILS

DNA is isolated and Next Generation Sequencing is performed on all coding exons and conserved intronic regions. Single base pair changes, small deletions and duplications and copy number variants (CNV) are identified. Sequencing runs result in a Quality Score of >30 (accuracy >99.9%) in at least 75% of all bases with a coverage of >20-fold. CNV detection sensitivity is 76.99% and precision is 62.59% (with GC limitation between 0.4 and 0.6 per target sensitivity is 77.04% and precision is 84.10%). Variant classification is performed following ACMG guidelines (Richards et al. 2015, Genet Med 17:405; Kearney et al. 2011, Genet Med 13:680).

WHY US?

- A network of laboratories and medical institutions makes us **a leader in genetic testing** in Germany with foundations dating back to 1998

- A clinical team comprised of scientists, physicians and medical geneticists, several with **>20 years of experience** in genetic testing, assuring meaningful and comprehensive genetic tests

- **Up-to-date diagnostic algorithms**

- Expertise in gene variant analysis ensuring **“no variant left behind”**

- Cutting-edge technology in sequencing and laboratory methods allows for **short turnaround times**

- **Quality** assessed by several certifying bodies, including EFI, DIN EN ISO 9001, DIN EN ISO 15189 accreditation as a medical laboratory, DIN EN ISO/IEC 17025 creed titration as a testing laboratory and a generally valid GMP (Good Medical Practice) certificate

- **Data privacy** is your right and our priority

www.medicover-genetics.com