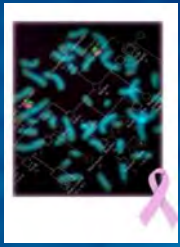
GENETICS CENTER

GCCancer

Comprehensive Cancer Services



Tremendous strides have been made in the early detection and management of various types of cancer in recent years. Genetics Center's state-of-the-art, CAP accredited, and Children's Oncology Group (COG) approved laboratories, offer the following services to assist you in the care and treatment of your patients with cancer. Genetics Center's Cancer Panel includes testing for genes which are known to be associated with specific hereditary cancer conditions. In addition, analysis of a cancer specimen involves far more than simply reporting the laboratory results. Our team of medical geneticists, scientists, and genetic counselors provide unparalleled assistance to our referring physicians in the interpretation of abnormalities.

Testing for genes can be ordered individually or in custom-designed panels.
Targeted mutation analysis for known familial mutations is also available for any gene.

Genetics Center's Cancer Panel can test for any of the following conditions:

- **ALK-Related Neuroblastoma Suceptibility** *(ALK)*
- **Ataxia Telangiectasia** *(ATM)*
- **Bannayan-Riley-Ruvalcaba Syndrome** *(PTEN)*
- **Birt-Hogg-Dube Syndrome** *(FLCN)*
- **Bloom Syndrome** *(BLM)*
- **CDK4-Related Cutaneous Malignant Melanoma** *(CDK4)*
- **CHEK2-Related Cancer** *(CHEK2)*
- **Cowden Syndrome** *(PTEN)*
- **Comprehensive Colon Cancer Panel**
  - Includes Lynch Syndrome, *APC, MUTYH, PTEN, SMAD4, BMPR1A, STK11, TP53*
- **Congenital Central Hypoventilation Syndrome** *(PHOX2B)*
- **Costello Syndrome** *(HRAS)*
- **Denys-Drash Syndrome** *(WT1)*
- **Familial Adenomatous Polyposis** *(APC)*
- **Familial Cutaneous Malignant Melanoma** *(CDH1)*
- **Familial Cylindromatosis** *(CYLD)*
- **Famililal Hemophagocytic Lymphohistiocytosis** *(PRF1)*
- **Familial Medullary Thyroid Carcinoma** *(RET)*
- **Familial Pituitary Adenoma** *(AIP)*
- **Fanconi Anemia** (contact us for complementation group list)
- **Fumarate Hydratase Deficiency** *(FH)*
- **Gardner Syndrome** *(APC)*
- **Gastrointestinal Cancer** *(BUB1B)*
- **Gorlin Syndrome** *(PTCH1)*
- **Hereditary Breast and Ovarian Cancer Syndrome** *(BRCA1, BRCA2)*
- **Hereditary Diffuse Gastric Cancer** *(CDH1)*
- **Hereditary Papillary Renal Cell Carcinoma** *(MET)*
- ***JAK2*-Related Disorders** *(JAK2)*
- **Juvenile Polyposis Syndrome** *(BMPR1A, SMAD4)*
- **Li-Fraumeni Syndrome** *(TP53)*
- **Lynch Syndrome** *(MLH1, MSH2, MSH6, PMS2, EPCAM* and *MUTYH)*
- **Multiple Endocrine Neoplasia, Type 1** *(MEN1)*
- **Multiple Endocrine Neoplasia, Types 2A & 2B** *(RET)*
- **Neurofibromatosis, Type 2** *(NF2)*
- **Nijmegen Breakage Syndrome** *(NBN)*
- **PALB2-Related Cancer** *(PALB2)*
- **Paragangliomia-Pheochromocytoma** *(SDHAF2, SDHB, SDHC, SDHD)*
- **Peutz-Jeghers Syndrome** *(STK11)*
- **Piebaldism and Familial Gastrointestinal Stromal Tumors** *(KIT)*
- **Pleuropulmonary Blastoma** *(DICER1)*
- **PMS1 Related Lynch Syndrome** *(PMS1)*
- **PTEN Hamartoma Tumor Syndrome** *(PTEN)*
- **Polyposis Syndrome Comprehensive Panel** *(APC, MUTYH)*
  - Includes FAP, Gardner Syndrome, Turcot Syndrome and Attenuated FAP
- **Retinoblastoma** *(RB1)*
- **Shwachman-Diamond Syndrome** *(SBDS)*
- **Schwannomatosis** *(SMARCB1)*
- **Simpson-Golabi-Behmel Syndrome** *(GPC3)*
- **Sotos Syndrome** *(NSD1)*
- **Tuberous Sclerosis** *(TSC1* & *TSC2)*
- **Turcot Syndrome** *(APC)*
- **Von Hippel-Lindau** *(VHL)*
- **Werner Syndrome** *(WRN)*
- **Wilms Tumor** *(WT1)*

Indications for testing:

- Individual with suspected hereditary cancer syndrome and/or positive family history.
- Individual with a bilateral or multifocal cancer.
- Identification of at-risk family members.

Cytogenetic Panels:

- **Cytogenetics – Karyotyping only:** metaphase analysis of chromosome abnormalities for detection of chromosomal gains and/or losses, translocations, and inversions that are specific to hematopoietic malignancies. Chromosome analysis on solid tumors is available as well.

- **Cytogenetics with Reflex to Fluroescence *in situ* Hybridization (FISH):** metaphase analysis of chromosome abnormalities for detection of chromosomal gains and/or losses, translocations, and inversions that are specific to hematopoietic malignancies. Further reflex to FISH for chromosome locus specific study as indicated. Chromosome & FISH analysis on solid tumors is available as well.

- **Fluorecence *in situ* hybridization (FISH) for Leukemias and Myeloid Disorders:** the following profiles and more are available:
  - Chronic myelogenic leukemia
  - Chronic lymphocytic leukemia
  - Myelodysplasitc syndrome
  - Multiple myeloma
  - Non-Hodgkin lymphoma
  - T-cell lymphoma
  - B-cell acute lymphoblastic leukemia
  - T-cell acute lymphoblastic leukemia
  - Acute myeloid leukemia

BCR/ABL Qualitative and Quantitative assay for CML:

- Molecular detection of t(9;22) as well as identification of major or minor *BCR/ABL*.
- Quantification of *BCR/ABL* fusion product with a sensitivity of 1:100,000 cells for monitoring of molecular response to treatment and residual disease.

Genetic Counseling:

Genetics Center can provide counseling to assess these risk factors and can facilitate testing for genes known to be involved in various hereditary cancer syndromes such as breast and ovarian cancers. Genetic counseling regarding cancer involves obtaining a detailed personal and family cancer history, risk assessment and explaining cancer risk figures, exploring options for genetic testing, discussing methods for early detection and possible prevention, and providing support. Cancer pretest and posttest genetic counseling is strongly recommended.

Sample Submission:

- Blood (4-10cc of whole blood in EDTA (lavender-top))
- Saliva (please contact us for free collection kits)

For further information regarding specimen requirements, pricing, turnaround time, or to request a specimen collection kit, please visit www.geneticscenter.com or contact us at:

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