HENRY FORD HEALTH
CENTER FOR PRECISION DIAGNOSTICS

Hereditary Renal / Urinary Tract Cancer Panel (27 genes)

This Hereditary cancer panel is a comprehensive panel that identifies inherited risks for developing cancers of the urinary tract (kidneys, renal pelvis, ureters, bladder and urethra) using genomic DNA.

Testing Method and Background

This test utilizes Next Generation Sequencing (NGS) technology, which provides coverage of all coding exons and noncoding DNA in exon flanking regions (on average 50 bp) enriched using hybrid capture methodology. This assay can detect >99% of described mutations in the included genes, when present, including single nucleotide variants (point mutations), small insertions/deletions (1-25 bp), larger deletions and duplication (<100 bp), complex insertions/deletions, splice site mutations, whole-gene deletions/duplications and exon-level intragenic deletions/insertions in each gene targeted for analysis. All reportable copy number variants are confirmed by independent methodology.

Hereditary cancer syndrome is a genetic predisposition to develop certain types of cancers, often at an early age. This panel includes genes responsible for rare hereditary cancer syndromes that have been linked to increased risk for urinary tract cancers, such as Lynch syndrome (*MLH1*, *MSH2*, *MSH6*, *PMS2*, or *EPCAM*), Li-Fraumeni syndrome (*TP53*), Cowden syndrome (*PTEN*), Tuberous sclerosis complex (*TSC1*, *TSC2*), Von Hippel-Lindau syndrome (*VHL*), hereditary paraganglioma-pheochromocytoma syndromes (*SDHB*, *SDHC*, *SDHD*), WT1-related Wilms tumor (*WT1*), hereditary papillary renal cell carcinoma (*MET*), hereditary leiomyomatosis and renal cell carcinoma (*FH*), Birt-Hogg-Dubé syndrome (*FLCN*), DICER1 syndrome (*DICER1*), BAP1 tumor predisposition syndrome (*BAP1*), CDC73 related disorders (*CDC73*), Perlman syndrome (*DIS3L2*), Simpson-Golabi-Behmel syndrome (*GPC3*), and Rhabdoid tumor predisposition syndrome (*SMARCB1*). These syndromes have been associated with increased lifetime risk for multiple types of cancer, including renal cancer, and are also characterized by other clinical features and cancer types specific for each syndrome. This panel also includes other genes linked to renal cancer predisposition (*PALB2*, *CDKN1C*, *BUB1B*).

Highlights of Hereditary Renal / Urinary Tract Cancer Panel (27 genes)

Targeted Region

BAP1, BUB1B, CDC73, CDKN1C, DICER1, DIS3L2, EPCAM, FH, FLCN, GPC3, MET, MLH1, MSH2, MSH6, PALB2, PMS2, PTEN, SDHA, SDHB, SDHC, SDHD, SMARCB1, TP53, TSC1, TSC2, VHL, WT1

- **Wide-ranging Coverage of Variants**
  Detects and provides coverage of all coding exons and noncoding DNA in exon flanking regions.
- **Accurate Results Using Clinically Validated Computational Data Analysis**
  A variety of mutation types (point, indels and duplications) are confirmed using computational data analysis for sequence variant calling, filtering and annotation.

Ordering Information

Get started (non-HFHS): Print a Hereditary Cancer Panels requisition form online at www.HenryFord.com/HFCPD

Get started (HFHS): Order through Epic using test " Hereditary Renal / Urinary Tract Cancer Panel" (DNA2100027)

Specimen requirements:

- Peripheral Blood - 1-3ml in lavender top tube (EDTA) **Specimen stability: Ambient - 72 hours; Refrigerated - 1 week**
- Extracted DNA - from a CLIA-certified Laboratory

Cause for Rejection: Clotted, hemolyzed, or frozen specimens, improper anticoagulant, tubes not labeled with dual patient identification, non-dedicated tubes.

TAT: 10-14 business days (after Prior Authorization obtained)

Mail test material to:
Henry Ford Center for Precision Diagnostics
Pathology and Laboratory Medicine
Clinic Building, K6, Core Lab, E-655
2799 W. Grand Blvd., Detroit, MI 48202

CPT Codes: 81437, 81438, G0452

Contact us: Client Services, Account and Billing Set-up, and connect with a Molecular Pathologist at (313) 916-4DNA (4362)

For more information on Comprehensive Molecular Services, visit our website www.HenryFord.com/HFCPD

Revision: 2; 04-11-2025