This test is designed to profile the molecular abnormalities in various hematologic neoplasms including:

GTC-Hematology Profile

Myelodysplastic syndrome (MDS)/Chronic myelomonocytic leukemia (CMML): This assay is used for stratifying patients, determining prognosis and selecting therapy. This assay will not only determine the aggressiveness and prognosis of the MDS but will also determine if the patient has reactive cytopenia and will distinguish between CHIP (Clonal Hematopoiesis of Indeterminate Potential) or CCUS (Clonal Cytopenia of Unknown Significance) and MDS.

Acute Myeloid Leukemia (AML): This test helps in the diagnosis of AML and distinguish between De Novo AML vs secondary AML. It also helps in determining eligibility for treatment with FLT3 and IDH1/2 inhibitors. For complete evaluation of translocations including all types of APL, Inv16, and t(8,21) and NUP98 translocations, we recommend ordering the GTC-Hematology PLUS panel.

Myeloproliferative Neoplasms (MPN): This include quantitative analysis of all exons of

JAK2, CALR and MPL.

Lymphoma: Analysis of mutations reported in various types of lymphoma, including follicular, DLBCL, CLL and T-cell lymphoma. However, for complete evaluation of lymphoma including determining double hit lymphoma and diagnosis of ABC vs GBC, RNA adding the ordering GTC-Hematology PLUS panel is recommended.

Multiple Myeloma: This panel detects mutations in coding sequence of genes frequently mutated in MM, but for thorough evaluation, we recommend ordering GTC-Hematology PLUS to cover expression abnormalities and chromosomal translocations.

Specimen Requirements:

-Bone marrow: 2 mL. EDTA tube is preferred.

-Peripheral blood: 5 mL. EDTA tube is preferred.

-Fresh Tissue

-FFPE: 1 H&E slide and 6-10 unstained slides, 5-7 microns of BM clot or tissue fixed with 10% NBF fixative. Alternatively, the FFPE block of the BM clot can be sent for sectioning in our Lab.

Shipping:

Ship using cold pack. The cold pack should not directly contact Blood or BM specimen. Ship As soon as sample collected with overnight delivery.

Turn Around Time:

5-7 days

Tested Genes

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| **Hematology Genes Tested for Abnormalities in coding sequence** |
| ABL1 | BCL2 | CBL | CDKN2C | DICER1 | FAS | IDH2 | KMT2A | MPL | PAX5 | PTCH1 | SMAD2 | TGFBR2 |
| AKT1 | BCL2L1 | CBLB | CEBPA | DNMT3A | FBXW7 | IGF1R | KMT2B | MRE11A | PBRM1 | PTEN | SMAD4 | TP53 |
| AKT2 | BCL6 | CBLC | CHEK1 | EP300 | FLT3 | IKZF1 | KMT2C | MTOR | PDGFRA | PTPN11 | SMARCA4 | TSC1 |
| AKT3 | BCOR | CCND1 | CHEK2 | ERG | GATA1 | IKZF3 | KMT2D | MUTYH | PDGFRB | RAD21 | SMARCB1 | TSC2 |
| ALK | BCORL1 | CCND3 | CIC | ETV6 | GATA2 | IRF4 | KRAS | MYC | PHF6 | RAD50 | SMC1A | TSHR |
| AMER1 | BCR | CD274 | CREBBP | EZH2 | GATA3 | JAK1 | MAP2K1 | MYD88 | PIK3CA | RAD51 | SMO | WT1 |
| APC | BIRC3 | CD79A | CRLF2 | FAM175A | GEN1 | JAK2 | MAP2K2 | NFKBIA | PIK3R1 | RB1 | SOCS1 | ZNF217 |
| ARID1A | BLM | CD79B | CSF1R | FAM46C | GNAQ | JAK3 | MAP2K4 | NOTCH1 | PIK3R2 | RHOA | SRC | ZRSR2 |
| ARID1B | BRAF | CDH1 | CSF3R | FANCA | GNAS | KAT6A | MAP3K1 | NOTCH2 | PIM1 | RNF43 | SRSF2 | MEF2B |
| ARID2 | BRCA1 | CDK12 | CTNNA1 | FANCC | H3F3A | KDM5C | MAP3K14 | NOTCH3 | PLCG1 | RUNX1 | STAG2 |   |
| ASXL1 | BRCA2 | CDK4 | CTNNB1 | FANCD2 | HNF1A | KDM6A | MAPK1 | NPM1 | POLD1 | SDHB | STAT3 |   |
| ATM | BTK | CDK6 | CUX1 | FANCE | HOXB13 | KDR | MCL1 | NRAS | POLE | SETBP1 | STK11 |   |
| ATRX | CALR | CDKN2A | CXCR4 | FANCF | HSP90AA1 | KEAP1 | MDM2 | NSD1 | PPM1D | SETD2 | TERT |   |
| B2M | CARD11 | CDKN2B | DDR2 | FANCG | IDH1 | KIT | MDM4 | PALB2 | PPP2R1A | SF3B1 | TET2 |   |