GTC-Hematology Plus combine expression and fusion with mutations analysis in DNA and RNA. This is a comprehensive evaluation of all hematologic neoplasms. However, it is especially recommended for:

GTC-Hematology PLUS

Acute lymphoblastic Leukemia (ALL): This comprehensive assay is designed to confirm the diagnosis of Ph-ALL and Ph-like ALL and distinguish them from other types of ALL. It can be used for diagnosis as well as for monitoring. Ph-Like ALL is detected in 20% to 25% of adult ALL and in 15% of pediatric ALL. Diagnosis of Ph+-ALL and Ph-like ALL is very important because TKI therapy can be helpful in most of these patients. This assay can determine most of the mutations, translocations and expression of genes (CRLF2) associated with Ph+ ALL and Ph-like ALL.

Diffuse Large B-cell Lymphoma (DLBCL) and other Lymphoma: This assay can provide very valuable information for the management and monitoring of patients with DLBCL. It can distinguish between ABC and GCB and can help in the diagnosis of double hit lymphoma. The assay is also useful for follicular lymphoma and T-cell neoplasms.

Acute Myeloid Leukemia (AML): Translocations in AML are very important for diagnosis, prognosis and selecting therapy. This comprehensive testing can provide complete evaluation of fusion mRNA and mutations. It also helps in determining diagnosis in acute leukemia with ambiguous phenotype.

Specimen Requirements:

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

-Peripheral blood: 5-10 mL. EDTA tube is preferred.

-Fresh Tissue

-FFPE: 1 H&E slide and 8-10 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:

7-10 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 |  |

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| **Fusion/Expression** | | | | | | | | | | | | | | | | |
| ABL1 | ALK | BRAF | CREBBP | EPOR | ETV5 | FGFR2 | FOXO1 | *JAK1* | MAP3K1 | NOTCH1 | NUP214 | PCM1 | PICALM | RET | RUNX1T1 | TCF3 |
| *ABL2* | BCL1 | CBFB | *CRLF2* | ERG | ETV6 | FGFR3 | FUS | JAK2 | MECOM | NTRK1 | NUP98 | PDGFRA | PML | RHOA | SS18 | TCF3 |
| AKT3 | BCL2 | *CBL* | *CSF1R* | ETV1 | EWSR1 | FIP1L1 | GLI1 | KMT2A | MYC | NTRK2 | P2RY8 | PDGFRB | *PTK2B* | ROS1 | STAT6 | TFG |
| ALK | BCL6 | CIC | EGFR | ETV4 | *FGFR1* | *FLT3* | IKZF3 | KRT18P6 | *MYH9* | *NTRK3* | PBX1 | PD-L1 | RARA | RUNX1 | TAL1 | *TYK2* |