



# ALVERNO LABORATORIES

## HEMATOPATHOLOGY Patient Information Sheet

CLIENT INFORMATION		PATIENT INFORMATION		
Account Name:	Last Name:	First Name:	M.I.	
Treating Physician (First, Last):	Date of Birth (mm/dd/yyyy):	Age:	Sex:	
Physician's Contact #:	Order Date:	Medical Record #:		
Physician's Signature:	Physician's NPI #:			

BILLING INFORMATION
<b>*** Required: Please include face sheet and front/back of patient's insurance card. ***</b>
<b>Patient Status:</b> <input type="checkbox"/> Hospital Patient (in) <input type="checkbox"/> Hospital Patient (out) <input type="checkbox"/> Non-Hospital Patient <b>Prior Authorization #:</b> _____ <b>Bill To:</b> <input type="checkbox"/> Client Bill <input type="checkbox"/> Insurance <input type="checkbox"/> Medicare <input type="checkbox"/> Medicaid <input type="checkbox"/> Patient/Self-Pay <input type="checkbox"/> Split Billing-Client(TC) & Insurance(PC) <input type="checkbox"/> OP Molecular to MCR, all other testing to Client <input type="checkbox"/> Bill charges to other Hospital/Facility:

SPECIMEN INFORMATION
<b>Collection Date</b> mm ____ / dd ____ / yyyy ____ <b>Collection Time</b> ____ <input type="checkbox"/> AM <input type="checkbox"/> PM
<input type="checkbox"/> Peripheral Blood ( <b>attach CBC result</b> ): Green Top(s) ____ Purple Top(s) ____ Other ____ <input type="checkbox"/> Fresh Tissue <input type="checkbox"/> FNA in <input type="checkbox"/> RPMI <input type="checkbox"/> Other ____ (Site) ____ <input type="checkbox"/> Bone Marrow ( <b>attach CBC result</b> ): Green Top(s) ____ Purple Top(s) ____ Core Biopsy ____ Clot ____ <input type="checkbox"/> Fluid: CSF ____ Pleural ____ Other: ____

CLINICAL INFORMATION
<b>*** This section must be complete or report will be delayed. ***</b>
<b>Known Diagnosis:</b> _____ <b>ICD-10 Code (Required)</b> _____ <b>Pertinent History:</b> <input type="checkbox"/> Pancytopenia <input type="checkbox"/> Thrombocytopenia <input type="checkbox"/> Leukopenia <input type="checkbox"/> Anemia <input type="checkbox"/> Lymphocytosis <input type="checkbox"/> Abnormal lymphocytes <input type="checkbox"/> Monocytosis <input type="checkbox"/> Atypical cells/blasts <input type="checkbox"/> Eosinophilia <input type="checkbox"/> Monoclonal gammopathy <input type="checkbox"/> Plasmacytosis <input type="checkbox"/> Lymphadenopathy <input type="checkbox"/> Extranodal mass <input type="checkbox"/> Splenomegaly <input type="checkbox"/> Other _____ <b>Diagnosis Under Consideration (Check All That Apply):</b> <input type="checkbox"/> non-Hodgkin Lymphoma <input type="checkbox"/> Hodgkin Lymphoma <input type="checkbox"/> Acute Leukemia <input type="checkbox"/> Chronic Lymphoproliferative Disorder <input type="checkbox"/> Myelodysplastic Disorder <input type="checkbox"/> Myeloproliferative Neoplasms <input type="checkbox"/> Multiple Myeloma <input type="checkbox"/> Other _____ <b>Status:</b> <input type="checkbox"/> New diagnosis <input type="checkbox"/> Follow up <input type="checkbox"/> Minimal residual disease <input type="checkbox"/> Relapse <input type="checkbox"/> BM Transplant

TEST MENU		
<b>Flow Cytometry - EDTA</b> <input type="checkbox"/> Global <input type="checkbox"/> Tech-Only <input type="checkbox"/> Lymphoma/Lymphocytosis Panel (For CLL, MM, and NHL studies) <b>FLWCY</b> <input type="checkbox"/> Leukemia/Lymphoma Comprehensive Panel (For ALL, AML, CML and MDS studies) <b>FLWCY</b> ----- Reflex panels if indicated ----- <input type="checkbox"/> Plasma Cell <input type="checkbox"/> Hairy Cell <input type="checkbox"/> Acute Leukemia Intracellular Markers: (nTdT, cMPO, cCD3, cCD79a) <input type="checkbox"/> T-cell Receptor <input type="checkbox"/> PNH (QUEST) <b>PNHHS</b>  <b>Cytogenetics (Chromosome Analysis) (QUEST) - Sodium Heparin</b> <input type="checkbox"/> Chromosome Analysis, Hematologic Malignancy <i>Myelogenous- MDS,MPD,ALL,CML (blood or bone marrow)</i> <b>CHABM</b> <input type="checkbox"/> Chromosome Analysis, CLL/LPD <i>Lymphoproliferative CLL,LPD (blood or bone marrow)</i> <b>CHRCL</b>	<b>Fluorescence in situ Hybridization (FISH) - Sodium Heparin</b> <input type="checkbox"/> *Process & hold <b>RQFSH</b> (all panels except Myeloma) <input type="checkbox"/> *Plasma Cell Enrichment - process & hold <b>RQPCE</b> (all panels including Myeloma) <i>*Call or email within 14 days of collection to add on panel.</i> <input type="checkbox"/> Global <input type="checkbox"/> Tech-Only-pathologist for interp: _____ <b>Select a panel below:</b> [FISH probes may be ordered individually by checking the box beside test] <input type="checkbox"/> <b>ALL Panel (Adult)</b> <b>ALLFH</b> <input type="checkbox"/> BCR/ABL t(9::22) <input type="checkbox"/> MLL Rearrangement (11q23) <input type="checkbox"/> <b>AML Panel</b> <b>AMLFH</b> <input type="checkbox"/> Deletion 5q/Monosomy 5 <input type="checkbox"/> Deletion 7q/Monosomy 7 <input type="checkbox"/> Trisomy 8 <input type="checkbox"/> Deletion 20q <input type="checkbox"/> Inv(3) 3q26 <input type="checkbox"/> RUNX1/RUNX1T1 (AML/ETO) t(8::21) <input type="checkbox"/> PML/RARA t(15::17) (APL) <input type="checkbox"/> MYH11/CBFB; inv(16), t(16::16) <input type="checkbox"/> MLL Rearrangement (11q23) <input type="checkbox"/> <b>CLL/SLL Panel</b> <b>CLLFH</b> <input type="checkbox"/> Deletion 11q (ATM) <input type="checkbox"/> Deletion 13q/Monosomy 13 <input type="checkbox"/> Deletion 17p (TP53) <input type="checkbox"/> Trisomy 12 <input type="checkbox"/> IGH/CCND1, t(11::4) <input type="checkbox"/> <b>MDS Panel</b> <b>MDSFH</b> <input type="checkbox"/> Deletion 5q/Monosomy 5 <input type="checkbox"/> Deletion 7q/Monosomy 7 <input type="checkbox"/> Trisomy 8 <input type="checkbox"/> Deletion 20q <input type="checkbox"/> <b>CML Panel</b> <b>CMLFH</b> <input type="checkbox"/> BCR/ABL t(9::22) <input type="checkbox"/> <b>Myeloma Panel</b> <b>MMYFH</b> <input type="checkbox"/> Deletion 1p/1q Gain <input type="checkbox"/> Deletion 13q/Monosomy 13 <input type="checkbox"/> Trisomy 3, 5, 9 <input type="checkbox"/> Deletion 17p (TP53) <input type="checkbox"/> IGH Rearrangement (14q32) Reflex to <input type="checkbox"/> IGH/CCND1, t(11::14) <input type="checkbox"/> IGH/FGFR3, t(4::14) <input type="checkbox"/> IGH/MAF, t(14::16) <input type="checkbox"/> <b>NHL Panel</b> <b>NHLFH</b> <input type="checkbox"/> ALK Rearrangement (2p23) <input type="checkbox"/> BCL6 Rearrangement (3q27) <input type="checkbox"/> MALT1 Rearrangement (18q21) <input type="checkbox"/> MYC Rearrangement (8q24) <input type="checkbox"/> IGH Rearrangement (14q32) <input type="checkbox"/> IGH/BCL2, t(14::8) <input type="checkbox"/> IGH/CCND1, t(11::14) <input type="checkbox"/> IGH/MYC, t(8::14) <input type="checkbox"/> <b>Eosinophilia Panel (QUEST)</b> <b>MPNEF</b> PDGFR-α, (FIP1L1), PDGFR-β, FGFR1, and CBFB <b>Other</b> _____	<b>Molecular Genetics - EDTA</b> <b>** Prior insurance authorization may be required.</b> <input type="checkbox"/> Extract Nucleic Acid and Hold* ( <i>* Call or email within 14 days to add NGSMY panel.</i> ) <input type="checkbox"/> Myeloid Neoplasms Mutation Panel by NGS (40 DNA /29 RNA genes) <b>NGSMY</b> <b>GTC</b> <a href="http://www.genomictestingcooperative.com">www.genomictestingcooperative.com</a> <input type="checkbox"/> Hematology Profile Plus <input type="checkbox"/> Liquid Trace™ Hematology <b>Quest Diagnostics</b> <a href="http://www.questdiagnostics.com">www.questdiagnostics.com</a> <input type="checkbox"/> BCR/ABL1, Quantitative PCR <b>BCRGR</b> <input type="checkbox"/> JAK2 V617F Mutation <b>JAVMA</b> <input type="checkbox"/> JAK2 Exon 12 Mutation <b>JAKMA</b> <input type="checkbox"/> MPN Panel w/JAK2, JAK2 Ex12, CALR, and MPL by NGS <b>JAKMN</b> <input type="checkbox"/> B-Cell Clonality by PCR (IgH/IgK) <b>BCELL</b> <input type="checkbox"/> T-Cell Clonality by PCR (TCRB, TCRG) <b>91445</b> <input type="checkbox"/> MYD88 L265P Mutation <b>MYD88</b> <input type="checkbox"/> NPM1 Mutation (Exon 12) <b>16158</b> <input type="checkbox"/> FLT3 ITD&TKD Mutation <b>FLT3</b> <input type="checkbox"/> CEBPA Mutation Detection <b>CEBPA</b> <input type="checkbox"/> TP53 Somatic Mutation <b>16515</b> <input type="checkbox"/> IgVH Mutation Status (CLL) <b>IGVMS</b> <input type="checkbox"/> Other _____

# LIS LABELS ONLY



# ALVERNO LABORATORIES

## HEMATOPATHOLOGY Patient Information Sheet

### TEST MENU DETAILS

#### Genomic Testing Cooperative(GTC)

##### GTC Hematology Profile Plus™

GTC Hematology Profile Plus™ combines expression and fusion with mutation analysis in DNA and RNA. The test covers 302 DNA genes and 1600 RNA genes. This is a comprehensive evaluation of all hematologic neoplasms. However, it is especially recommended for:

- **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 Types of 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 a complete evaluation of fusion mRNA and mutations. It also helps in determining a diagnosis in acute leukemia with ambiguous phenotype.
- **Clonal Hematopoiesis of Indeterminate Potential (CHIP):** Distinguish CHIP from clinically active and relevant hematologic neoplasm based on an internally developed algorithm using variant allele frequency, chromosomal structural abnormalities, clinical and laboratory data and longitudinal data. This distinction is particularly important when evaluating minimal residual disease and in the presence of other neoplastic process.
- **IgVH Mutation Status:** IgVH mutation status is very important for prognosis and selecting therapy in patients with chronic lymphocytic leukemia (CLL).
- **VEXAS Syndrome:** Recently described VEXAS (vacuoles, E1 enzyme, X-linked, autoinflammatory, somatic) is caused by mutations in the UBA1 gene. This is an adults-onset fatal disease that may present as myelodysplastic syndrome, aplastic anemia or multiple myeloma, but characterized by fevers, low white cell count, vacuoles in bone marrow cells, dysplastic bone marrow, pulmonary inflammation, chondritis, and vasculitis. Detecting the presence of mutations in the UBA1 gene is the only way for confirming the diagnosis of this syndrome.

##### Liquid Trace® Hematology

###### Pan-Tumor Assay for Hematologic Malignancies

GTC's Liquid Trace® Hematology is a pan-cancer highly sensitive test evaluating cfRNA and cfDNA providing highly informative data that can be used for diagnoses, evaluating the host immune response, and identifying biomarkers for predicting responses to various therapies.

**GTC's Liquid Trace® can significantly reduce the need for bone marrow biopsies for hematology patients. Furthermore, the test can detect, chromosomal abnormalities, translocations, and gene amplifications. Liquid Trace® can detect all types if hematologic cancers including:**

- Multiple myeloma
- Lymphoma
- Acute Lymphoblastic Leukemia
- Acute myeloid leukemia
- MDS
- CMML
- MPN
- MRD
- VEXAS syndrome
- EBV – related neoplasms
- Hypersinophilia

Liquid biopsy in its current form is dependent on cfDNA analysis; this method likewise presents multiple challenges. These include variations in DNA shedding between tumors as well as low sensitivity (especially in early-stage cancer), difficulty in detecting fusion genes (i.e., chromosomal translocations leading to the expression of chimeric mRNA from two genes), and inability to reflect the numerous biological processes that modify RNA expression levels, such as alternative splicing, stability, and allele-specific methylation. The latter limitation is critically important as recent studies have shown that RNA testing provides another level of biological information regarding the tumor and its microenvironment.

###### The Benefits of cfRNA

RNA sequencing has proven to be more sensitive for some types of mutations. Cancer cells typically contain one copy of mutated DNA but numerous copies of RNA. This research is consistent with GTC's findings that cfRNA has increased sensitivity over cfDNA alone. More specifically, cfRNA allowed GTC's Liquid Trace® to detect more mutations and fusions in hematologic and solid tumor samples, which may be undetected by conventional cfDNA.

Hematology Profile Plus™	Liquid Trace® Hematology
Genes: 302 /> 1600	Genes: 302 /> 1600
TAT: 7-10 Days	TAT: 5-7 Days
Indications	Indications
All hematologic neoplasms including lymphoma Classification and diagnosis of lymphoma, multiple myeloma, acute lymphoblastic leukemia, and acute myeloid leukemia Includes IgVH Chromosomal abnormalities, and gene amplifications	All hematologic neoplasms including lymphoma multiple myeloma, acute lymphoblastic leukemia, acute myeloid leukemia, MDS, CMML, MPN, MRD, VEXAS syndrome, and EBV Chromosomal abnormalities, and gene amplifications
Sample Type	Sample Type
Bone marrow, Peripheral blood, Fresh tissue	Peripheral blood
Sample Requirements	Sample Requirements
Bone marrow: 2ml. Peripheral blood: 5 ml. EDTA tube preferred FFPE: 1 H&E slide and 6-10 unstained slides, 5-7 microns of tissue fixed with 10% NBF fixative	8-10 mL. EDTA tube is required RNA stability is 48-72 hours from blood draw. DNA stability is 7 days from blood draw. <b>Samples received beyond 72 hours may include only DNA results.</b>
Results Reported: <b>DNA + RNA</b>	Results Reported: <b>DNA + RNA</b>