

### Client Information (required)

|                    |                  |          |
|--------------------|------------------|----------|
| Client Name        |                  |          |
| Client Account No. |                  |          |
| Client Phone       | Client Order No. |          |
| Address            |                  |          |
| City               | State            | Zip Code |

### Submitting Provider/Provider Name Information (required)

|  |
|--|
| Submitting/Referring Provider <i>(Last, First)</i>   |
| <b>Fill in only if Call Back is required.</b><br>Phone (     ) _____ - _____<br>Fax* (     ) _____ - _____ |
| Provider's National I.D. (NPI)   |

\*Fax number given must be from a fax machine that complies with applicable HIPAA regulation.

### Pathology/Clinical Diagnosis (required)

|   |
|---|
| <b>Please include pathology report.</b>   |
| <i>(Include a <b>reason for referral</b>, suspected diagnosis, brief history, and pertinent laboratory results.)</i>                      |
|   |
| Bone marrow transplant:<br><input type="checkbox"/> Autologous <input type="checkbox"/> Allogeneic <input type="checkbox"/> Sex mis-match |
| Disease stage:<br><input type="checkbox"/> New diagnosis <input type="checkbox"/> Relapse <input type="checkbox"/> MRD                    |
| ICD-10 Diagnosis Code   |

#### Ship specimens to:

Mayo Clinic Laboratories  
3050 Superior Drive NW  
Rochester, MN 55901

**Customer Service: 855-516-8404**

Visit [www.MayoClinicLabs.com](http://www.MayoClinicLabs.com) for the most up-to-date test and shipping information.

### Patient Information (required)

|   |  |
|---|--|
| Patient ID <i>(Medical Record No.)</i>                                  |  |
| Patient Name <i>(Last, First, Middle)</i>                               |  |
| Gender<br><input type="checkbox"/> Male <input type="checkbox"/> Female | Birth Date <i>(Month DD, YYYY)</i>                                 |
| Collection Date <i>(Month DD, YYYY)</i>                                 | Time <input type="checkbox"/> a.m.<br><input type="checkbox"/> p.m |

### Specimens Provided (required)

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Blood<br><input type="checkbox"/> Bone Marrow<br><input type="checkbox"/> Fixed Cells<br><input type="checkbox"/> Cultured Cells<br><input type="checkbox"/> DNA<br><input type="checkbox"/> Lymph Node<br><input type="checkbox"/> Spleen | <input type="checkbox"/> Paraffin block<br>No. sent: _____<br>Indicate source:<br><br><input type="checkbox"/> Slides<br>No. sent: _____ | <input type="checkbox"/> Tissue<br>No. sent: _____<br><input type="checkbox"/> Frozen<br><input type="checkbox"/> Fixed Formalin<br><input type="checkbox"/> Wet Tissue<br><input type="checkbox"/> Other Fixative, type:<br><br><input type="checkbox"/> Other<br><br>Anatomic site: _____ |
|---|--|---|

|              |           |           |
|--------------|-----------|-----------|
| CBC results: |           |           |
| HGB _____    | MCV _____ | WBC _____ |
| RBC _____    | RDW _____ | PLT _____ |

### Pathologist's Name (required)

|   |
|---|
| Submitting/Referring Pathologist <i>(Last, First)</i> |
|   |
| Phone (     ) _____ - _____                           |
| Fax* (     ) _____ - _____                            |

\*Fax number given must be from a fax machine that complies with applicable HIPAA regulation.

|                              |
|------------------------------|
| <b>MCL Internal Use Only</b> |
|                              |

#### Billing Information

- An itemized invoice will be sent each month.
- Payment terms are net 30 days.

Call the Business Office with billing related questions:  
800-447-6424 (US and Canada)  
507-266-5490 (outside the US)

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**Hematopathology Consultation**

- PATHC Pathology Consultation (submit PB and bone marrow aspirate slides, block)
- HPWET Hematopathology Consultation, MCL Embed (submit core biopsy, clot section, bone marrow aspirate and PB slides)
- HPCUT Hematopathology Consultation, Client Embed (submit bone marrow liquid aspirate, PB and bone marrow slides and embedded core biopsy and clot section)

**Hematologic Disorders Hold Service**

- HOLDC Chromosome Hold
- HOLDF FISH Hold
- HLLFH Leukemia/Lymphoma Flow Hold\*\*
- EXHD DNA Extract and Hold
- EXHR DNA and RNA Extract and Hold

**Flow Cytometry**

- Leukemia/Lymphoma Immunophenotyping
- LCMS Blood/Bone Marrow\*\*
  - LLPT Tissue
  - LLTOF Technical Only
  - MYEFL Myelodysplastic Syndrome by Flow Cytometry, Bone Marrow
  - PLINK PNH, PI-Linked Antigen, Blood
  - SZDIA Sezary Diagnostic Flow Cytometry, Blood
  - SZMON Sezary Monitoring Flow Cytometry, Blood
  - CEE20 CD20 Cell Expression Evaluation
  - CEE49 CD49d Cell Expression Evaluation
  - CEE52 CD52 Cell Expression Evaluation

**Chromosome Analysis**

- CHRBM Bone Marrow
- CHRHB Hematologic Blood
- CHRHLN Lymphoid Tissue
- CHRBF Body Fluid

**Next-Generation Sequencing (NGS)**

- NGAMT NGS AML 4 Gene Panel, Therapeutic
- NGAML NGS AML, 11-Gene Panel
- NGSHM OncoHeme NGS Myeloid Neoplasms
- NGSMM NGS, Multiple Myeloma

**Chromosomal Microarray**

- CMAH Hematologic Disorders

**MatePair (NGS) Targeted Rearrangement**

- MTRBM MatePair, Targeted Rearrangements, Hematologic (Blood/Bone Marrow)
- MTRTI MatePair, Targeted Rearrangements, Oncology (Tissue-Fresh)
- MPAML MatePair, Acute Myeloid Leukemia (AML) Panel

**ACUTE MYELOID LEUKEMIA (AML)/ MYELOYDYSPLASTIC SYNDROME (MDS)**

**Acute Myeloid Leukemia (AML)**

- PMLR PML/RARA Quantitative, PCR
- CEBPA CEBPA Mutations, Gene Sequencing
- FLT FLT3 Mutation Analysis
- NPM1 Nucleophosmin (NPM1) Mutation Analysis
- MPAML MatePair, Acute Myeloid Leukemia (AML) Panel
- KITE KIT Mutation Exons 8-11 and 17, Hematologic Neoplasms, Sequencing

AMLF Acute Myeloid Leukemia (AML), FISH

- Must select probes listed below or entire panel
- RUNX1T1/RUNX1 t(8;21)(q22;q22)  
reflex: MECOM/RUNX1 t(3;21)(q26.2;q22)
  - PML/RARA t(15;17)(q24.1;q21.2)  
reflex: RARA/BAP 17q21 rearrangement
  - MYH11/CBFB inv(16)(p13q22) or t(16;16)
  - DEK/NUP214 t(6;9)(p23;q34)
  - KAT6A/CREBBP t(8;16)(p11.2;p13.3)
  - NUP98 BAP 11p15.4 rearrangement  
reflex: HOXA9/NUP98 t(7;11)(p15;p15.4)
  - MLL (KMT2A) BAP 11q23 rearrangement  
reflex: AFF1/MLL t(4;11)(q21;q23)  
reflex: MLLT4/MLL t(6;11)(q27;q23)  
reflex: MLLT3/MLL t(9;11)(p22;q23)  
reflex: MLLT10/MLL t(10;11)(p13;q23)  
reflex: MLL/CREBBP t(11;16)(q23;p13.3)  
reflex: MLL/MLLT1 t(11;19)(q23;p13.3)  
reflex: MLL/ELL t(11;19)(q23;p13.1)
  - BCR/ABL1 t(9;22)(q34;q11.2)
  - MLF1/NPM1 t(3;5)(q25;q34)
  - RBM15/MKL1 t(1;22)(p13.3;q13.1)
  - RPN1/MECOM inv(3)(q21.3q26.2) or t(3;3)  
reflex: PRDM16/RPN1 t(1;3)(p36.3;q21.3)  
reflex: MECOM/RUNX1 t(3;21)(q26.2;q22)
  - D5S630/EGR1 -5/5q deletion
  - D7Z1/D7S486 -7/7q deletion
  - D8Z2/MYC +8
  - D13S319/LAMP1 13q deletion
  - TP53/D17Z1 -17/17p deletion
  - D20S108/20qter 20q deletion/ider(20q)
- Perform entire panel

**Myelodysplasia Syndromes (MDS)**

- MYEFL Myelodysplastic Syndrome by Flow Cytometry, Bone Marrow
- PLINK PNH, PI-Linked Antigen, Blood

MDSF Myelodysplastic Syndrome (MDS), FISH

- Must select probes listed below or entire panel
- RPN1/MECOM inv(3) or t(3;3)  
reflex: MECOM/RUNX1 t(3;21)(q26.2;q22)  
reflex: PRDM16/RPN1 t(1;3)(p36.3;q21.3)
  - D5S630/EGR1 -5/5q deletion
  - D7Z1/D7S486 -7/7q deletion
  - D8Z2/MYC +8
  - TP53/D17Z1 -17/17p deletion
  - D20S108/20qter 20q deletion/ider(20q)
  - MLL (KMT2A) BAP 11q23 rearrangement  
reflex: AFF1/MLL t(4;11)(q21;q23)  
reflex: MLLT4/MLL t(6;11)(q27;q23)  
reflex: MLLT3/MLL t(9;11)(p22;q23)  
reflex: MLLT10/MLL t(10;11)(p13;q23)  
reflex: MLL/CREBBP t(11;16)(q23;p13.3)  
reflex: MLL/MLLT1 t(11;19)(q23;p13.3)  
reflex: MLL/ELL t(11;19)(q23;p13.1)
- Perform entire panel

MSTF Myeloid Sarcoma, FISH, Tissue

- Must select probes listed below or entire panel
- RUNX1T1/RUNX1 t(8;21)(q22;q22)
  - BCR/ABL1 t(9;22)(q34;q11.2)
  - MLL (KMT2A) BAP 11q23 rearrangement
  - PML/RARA t(15;17)(q24.1;q21.2)
  - MYH11/CBFB inv(16)(p13q22) or t(16;16)
- Perform entire panel

**BONE MARROW TRANSPLANT**

- ALLM B-ALL Monitoring, MRD Detection, Bone Marrow
- CHIDB Chimerism-Donor
- CHRGB Chimerism-Recipient Germline (Pre)
- CHIMU Chimerism Transplant No Cell Sort
- CHIMS Chimerism Transplant Sorted Cells
- CLLMV CLL Monitoring, MRD Detection, Varies
- DISI HLA Class I Molecular Typing Disease Association
- DIS2 HLA Class II Molecular Typing Disease Association
- BMTF XX/XY in Opposite Sex Bone Marrow Transplantation, FISH

\*\* Algorithms are available online for these tests. Visit [www.MayoClinicLabs.com](http://www.MayoClinicLabs.com)

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**LYMPHOID DISORDERS**

**B-Cell**

ALLM B-ALL Monitoring, MRD Detection, Bone Marrow

Immunoglobulin Gene Rearrangement

BCGR Blood

BCGBM Bone Marrow

BCGRV Varies

MYD88 MYD88, L265P, Somatic Gene Mutation, DNA Allele-Specific PCR

CXLPL CXCR4 Mutation Analysis, Somatic, Lymphoplasmacytic Lymphoma/Waldenstrom Macroglobulinemia

LPLFX Lymphoplasmacytic Lymphoma/Waldenstrom Macroglobulinemia (LPL/WM), MYD88 L265P with Reflex to CXCR4

VISCS Viscosity, Serum

BALLF B-Lymphoblastic Leukemia/Lymphoma, FISH\*\*

Must select EITHER Individual Probes desired or Diagnostic B-ALL or BCR-ABL1(Ph)-like Panels (or both)

**Diagnostic+BCR-ABL1(Ph)-like Panels** (includes probes listed below; reflex probes and ABL1 as needed)

**Diagnostic Panel**

PBX1/TCF3 t(1;19)(q23;p13.3)

ETV6/RUNX1 t(12;21)(p13;q22)

BCR/ABL1 t(9;22)(q34;q11.2)

MLL (KMT2A) BAP 11q23 rearrangement  
reflex: AFF1/MLL t(4;11)(q21;q23)  
reflex: MLLT4/MLL t(6;11)(q27;q23)  
reflex: MLLT3/MLL t(9;11)(p22;q23)  
reflex: MLLT10/MLL t(10;11)(p13;q23)  
reflex: MLL/MLLT1 t(11;19)(q23;p13.3)  
reflex: MLL/ELL t(11;19)(q23;p13.1)

CDKN2A/D9Z1 -9/9p deletion or +9

D4Z1/D10Z1/D17Z1 +4,+10,+17, hyper- or hypodiploidy

TP53/D17Z1 -17/17p deletion

IGH BAP 14q32 rearrangement  
reflex: CRLF2/IGH t(X;14) or t(Y;14)

MYC BAP 8q24.1 rearrangement

P2RY8 BAP t(Xp22.3;var) or t(Yp11.32;var)

CRLF2 BAP t(Xp22.33;var) or t(Yp11.32;var)

**Perform entire diagnostic panel**

**BCR-ABL1(Ph)-like Panel**

ABL2 BAP 1q25rearrangement

PDGFRB BAP 5q33 rearrangement

IKZF1/Cep7 -7/7p deletion

JAK2 BAP 9p24.1 rearrangement

ABL1 BAP 9q34 rearrangement

CRLF2 BAP t(Xp22.33;var) or t(Yp11.32;var)

P2RY8 BAP t(Xp22.3;var) or t(Yp11.32;var)

**Perform entire BCR-ABL1(Ph)-like panel**

BLPF B-Cell Lymphoma, FISH, Blood or Bone Marrow (includes fresh tissue)

BLYM B-Cell Lymphoma, FISH, Tissue

*Must select lymphoma subtype*

**Burkitt (Pediatric)**

Must select probes listed below or entire panel

MYC BAP 8q24.1 rearrangement

IGK/MYC t(2;8)(p12;q24.1)

MYC/IGH t(8;14)(q24.1;q32)

MYC/IGL t(8;22)(q24.1;q11.2)

BCL6 BAP 3q27 rearrangement

BCL2 BAP 18q21 rearrangement

**Perform entire Burkitt panel**

**Diffuse Large B-Cell, Burkitt-Like "Double-Hit"**

Must select probes listed below or entire panel

MYC BAP 8q24.1 rearrangement

MYC/IGH t(8;14)(q24.1;q32)  
reflex: IGK/MYC t(2;8)(p12;q24.1)  
reflex: MYC/IGL t(8;22)(q24.1;q11.2)

BCL6 BAP 3q27 rearrangement  
reflex: BCL2 BAP 18q21 rearrangement

**Perform entire panel (MYC/IGH, BAP MYC, BCL6 and BCL2)**

**Follicular**

Must select probes listed below or entire panel

BCL2 BAP 18q21 rearrangement

BCL6 BAP 3q27 rearrangement

**Perform entire follicular panel**

**Mantle Cell**

CCND1/IGH t(11;14)(q13;q32)

CCND1 BAP reflex: 11q13 rearrangement

TP53/D17Z1 Blastoid subtype only: deletion of 17p

MYC BAP Blastoid subtype only: 8q24.1 rearrangement

**Splenic Marginal Zone Lymphoma (SMZL)**

Must select probes listed below or entire panel

D7Z1/7q32 deletion 7q

TP53/D17Z1 deletion 17p

**Perform entire SMZL panel**

**Mucosa-Associated Lymphoid Tissue (MALT/ENMZL)**

MALT1 BAP 18q21 rearrangement

**Large B-Cell with IRF4 Rearrangement**

Must select probes listed below or entire panel

IRF4 BAP 6p24.3 rearrangement

BCL2 BAP 18q21 rearrangement

BCL6 BAP 3q27 rearrangement

**Perform entire Large B-Cell panel**

**Chronic Lymphocytic Leukemia (CLL)**

CLLMV CLL Monitoring, MRD Detection

BCLL IGH Somatic Hypermutation Analysis, B-Cell (B-CLL)

P53CA Hematologic Neoplasms, TP53 Somatic Mutation, DNA Sequencing Exons 4-9

CLLF Chronic Lymphocytic Leukemia (CLL), FISH

SLL Small Lymphocytic Lymphoma, FISH, Tissue

Must select probes listed below or entire panel

D6Z1/MYB -6/6q deletion

D11Z1/ATM -11/11q deletion

D12Z3/MDM2 +12

D13S319/LAMP1 -13/13q deletion

TP53/D17Z1 -17/17p deletion

CCND1/IGH t(11;14)(q13;q32)  
reflex: IGH/BCL2 t(14;18)(q32;q21)  
reflex: IGH/BCL3 t(14;19)(q32;q13)

**Perform entire panel**

TLPF T-Cell Lymphoma, FISH, Blood or Bone Marrow

TLYM T-Cell Lymphoma, FISH, Tissue

Must select probes listed or entire panel

TCL1A BAP 14q32 rearrangement

D7Z1/D7S486 and D8Z2/MYC -7/iso(7q) and +8

ALK BAP (tissue only) 2p23 rearrangement

TP63 BAP 3q28 rearrangement

IRF4 (DUSP22) BAP 6p25.3 rearrangement

**Perform entire panel**

**T-Cell**

T-Cell Receptor Gene Rearrangement

TCGR PCR, Blood

TCGBM Bone Marrow\*\*

TCGRV Varies

SZDIA Sezary Diagnostic Flow Cytometry, Blood

SZMON Sezary Monitoring Flow Cytometry, Blood

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TALLF T-Cell Acute Lymphoblastic Leukemia (T-ALL), FISH

TLBLF T-Lymphoblastic Leukemia/Lymphoma, FISH, Tissue

Must select probes listed below or entire panel

BCR/ABL1 t(9;22) and ABL1 amplification

MLL (KMT2A) BAP 11q23 rearrangement  
 reflex: AFF1/MLL t(4;11)(q21;q23)  
 reflex: MLLT4/MLL t(6;11)(q27;q23)  
 reflex: MLLT3/MLL t(9;11)(p22;q23)  
 reflex: MLLT10/MLL t(10;11)(p13;q23)  
 reflex: MLL/MLLT1 t(11;19)(q23;p13.3)  
 reflex: MLL/ELL t(11;19)(q23;p13.1)

CDKN2A/D9Z1 -9/9p deletion or +9

TAL1/STIL 1p33 rearrangement

TLX3/BCL11B t(5;14)(q35;q32)

TRB BAP 7q34 rearrangement  
 Four reflex probes available MYB, TLX1, LMO1, LMO2 (BL/BM only)

MLLT10/PICALM t(10;11)(p12;q14)

TRAD BAP 14q11.2 rearrangement  
 Four reflex probes available MYC, TLX1, LMO1, LMO2 reflex (BL/BM only)

**Perform entire panel**

**MYELOPROLIFERATIVE NEOPLASM (MPN)**

**BCR/ABL1 Testing**

**Diagnostic**

BCRFX Qualitative Diagnostic with Reflex to p190 or p210 Quantitative Assay

BADX mRNA Detection, RT-PCR, Qualitative, Diagnostic Assay\*

**Monitoring**

BCRA B p210, mRNA Detection, RT-PCR, Quantitative Monitoring, CML

BA190 p190, mRNA Detection, RT-PCR, Quantitative Monitoring

**Additional**

BAKDM Tyrosine Kinase Inhibitor Resistance, Kinase Domain Mutation Screen

**JAK2-CALR-MPL-JAK2V671F Testing**

MPNR Myeloproliferative Neoplasm (MPN), JAK2 V671F with Reflex to CALR and MPL

PVJAK Polycythemia Vera, JAK2 V671F with Reflex to JAK2 Exon 12-15, Sequencing for Erythrocytosis

JAK2 V671F Mutation Detection

JAK2B Blood\*\*

JAK2M Bone Marrow\*\*

JAK2V Varies

CALR CALR Mutation Analysis, Myeloproliferative Neoplasm (MPN)\*\*

MPNCM Myeloproliferative Neoplasm (MPN), CALR with Reflex to MPL

MPL Exon 10 Mutation Detection

MPLB Blood\*\*

MPLM Bone Marrow\*\*

MPLVA Varies

JAK2 Exon 12 and Other Non-V671F Mutation

JAKXB Blood\*\*

JAKXM Bone Marrow

**MISCELLANEOUS MYELOPROLIFERATIVE NEOPLASM (MPN)**

CSF3R CSF3R Exon 14 and 17 Mutation Detection by Sanger Sequencing

CHICF CHIC2 (4q12) Deletion (FIP1L1 and PDGFRA Fusion), FISH

512F PDGFRB/TEL t(5;12) for Chronic Myelomonocytic Leukemia (CMML), FISH

FGFRF FGFR1 (8p11.2) Rearrangement, FISH

MUR Lysozyme (Muramidase), Plasma

**KIT Mutation Testing**

KIT Asp816Val Mutation Analysis

KITB Blood

KITBM Bone Marrow

KITAS Varies

KITE KIT Mutation Exons 8-11 and 17, Hematologic Neoplasms, Sequencing

IMRGF Imatinib Mesylate Responsive Genes, FISH

Must select probes listed below or entire panel

ABL2 BAP 1q25 rearrangement

FIP1L1/CHIC2/ PDGFRA 4q12 deletion/rearrangement

PDGFRB BAP 5q33 rearrangement

ABL1 BAP 9q34 rearrangement

**Perform entire panel**

**MYELOMA, AMYLOIDOSIS & DYSPROTEINEMIA**

**Amyloid**

AMPIP Amyloid Protein Identification, Paraffin, LC-MS/MS

ATTRZ TTR Gene, Full Gene Analysis

FMTT Familial Mutation, Targeted Testing

TTRX Amyloidosis, Transthyretin-Associated Familial, Reflex, Blood

FATAS Subcutaneous Fat Aspirate

**Myeloma**

Is patient on CD38 Therapy?  Yes  No

MSMRT Mayo Algorithmic Approach for Stratification of Myeloma and Risk-Adapted Therapy Report, Bone Marrow

PBLI Plasma Cell Assessment, Blood

PCPRO Plasma Cell DNA Content and Proliferation, Bone Marrow

MRDMM Multiple Myeloma MRD by Flow, Bone Marrow

PCPDS Plasma Cell Proliferative Disorder, FISH, Bone Marrow

MFCF Myeloma, FISH, Fixed Cells (fixed cell pellet only)

PLASF Plasma Cell Proliferative Disorder, FISH, Tissue

Must select probes listed below or entire panel

CCND1/IGH t(11;14)(q13;q32)/+11

IGH BAP 14q32 rearrangement  
 reflex: IGH/MAF t(14;16)(q32;q23)  
 reflex: IGH/MAFB t(14;20)(q32;q12)  
 reflex: FGFR3/IGH t(4;14)(p16.3;q32)  
 reflex: CCND3/IGH t(6;14)(p21;q32)

RB1/LAMP1 -13/13q deletion

D3Z1/D7Z1 +3 and +7

D9Z1/D15Z4 +9 and +15

TP53/D17Z1 -17/17p deletion/+17

TP73/1q22 1q gain

MYC BAP 8q24 rearrangement

**Progression panel (1q, 17p, MYC)**

**Perform entire panel**

**MISCELLANEOUS**

ETVBF ETV6 (12p13.2) Rearrangement, FISH

JAK2F JAK2 (9p24.1) Rearrangement for Hematologic Disorders, FISH