UPMC
LIFE CHANGING MEDICINE

Hematopathology Testing Service
Bone Marrow/Blood/Body Fluid Specimens

See Page 2 for Specimen Requirements and requests for Molecular and Cytogenetics Testing. Please include Patient Name and DOB at top of Page 2.

Clinical Flow Cytometry Laboratory
3477 Euler Way, Room 9032
Pittsburgh, PA 15213
Tel: (412)864-6173 Fax: (412)864-6102

PATIENT INFORMATION (Please print or apply patient label):

Last Name:	First:	MI:	SSN/MRN#

○ Outpatient ○ Inpatient – Room#_____	Birthdate	Genetic Sex: ○ Male ○ Female	ICD 10 Code(s)

REFERRING PHYSICIAN (MUST BE COMPLETED)

Ordering Provider:	Phone (include area code)	Fax (include area code)

Institution Name	Copy To:

Name of person filling out form:	Phone (include area code)

Date/Time of Collection:	**Collection Tech:**

Signature of Ordering Provider (REQUIRED):

DIAGNOSIS INFORMATION / INDICATION FOR TESTING (Required)

PB/ CLINICAL ABNORMALITIES:

○ Anemia ○ Neutropenia ○ Leukocytosis ○ Eosinophilia ○ Lymphadenopathy ○ Blast
○ Pancytopenia ○ Thrombocytopenia ○ Lymphocytosis ○ Thrombocytosis ○ Splenomegaly ○ Other: _____

ACUTE LEUKEMIA:	**OTHER MYELOID NEOPLASMS**	**MATURE B-CELL NEOPLASMS:**	**MATURE T-CELL NEOPLASMS:**	**PLASMA CELL NEOPLASMS:**
○ AML	○ MDS	○ Burkitt	○ AITL	○ Myeloma
○ APL	○ MPN	○ CLL	○ T-LGL	○ Monoclonal Gammopathy (MGUS)
○ B-ALL	○ CML	○ DLBCL	○ T-PLL	**OTHER:**
○ T-ALL	○ PV / PMF / ET	○ Follicular	○ MF/Sezary Syndrome	○ Hodgkin Lymphoma
○ Uncertain	○ MDS / MPN	○ Mantle Cell	○ Other:	○ Mastocytosis
	○ CMML	○ Marginal Zone		○ Neuroblastoma
	○ Other:	○ Other:		○ Wilms Tumor
				○ Other:

DISEASE PHASE (if applicable): ○ Presentation ○ Post Therapy ○ Recurrence

Additional Clinical Information:	**ANTI-NEOPLASTIC THERAPIES:**	Specify Type	Last Date
	○ Chemotherapy		
	○ Ag Directed (MAB/CAR-T) RX		
Medications:	○ Other		
	○ Growth Factor		
	○ Radiation		

SPECIMEN INFORMATION (Required)

Type of Specimen:	○ Peripheral Blood	○ Bone Marrow	○ *Right Iliac Crest* ○ *Left Iliac Crest*	○ Fluid (Type/Site) _____

PLEASE SEND A COPY OF THE MOST RECENT CBC & DIFFERENTIAL AND A PERIPHERAL SMEAR

TESTING REQUESTED (Required)

BONE MARROW INTERPRETATION: Includes peripheral blood interpretation, if available.

○ Bone Marrow Smears for Interpretation ○ Bone Particle Prep for Interpretation (Yellow top/ACD tube)
○ Bone Marrow Biopsy for Interpretation ○ Iron Stain ○ Other: _____

Ancillary testing will be determined by pathologist unless otherwise indicated by checking this box □

PERIPHERAL BLOOD INTERPRETATION: Without bone marrow - Please send 2 PB smears along with current CBC report.

○ Diagnostic evaluation of peripheral blood ○ Sezary Cell Evaluation

FLOW CYTOMETRY TESTING			**MINIMUM RESIDUAL DISEASE**
○ Leukemia Panel	○ PNH	○ T-Lymph Subset Panel	○ Plasma Cell Myeloma: (pt. MUST be in CR/VGPR)
○ Lymphoma Panel	○ ALPS Evaluation	○ CD4+ Only Evaluation	→ ATTESTATION SIGNATURE: (required below)
○ R/O Myeloma	○ Sezary Cell Evaluation	○ Other (Specify):	_____
○ R/O LGL	○ CGD (NOBA) Evaluations		○ B-ALL (Flow) COG# (if applicable): _____
			○ Other:

See Page 2 for Specimen Requirements and option of Molecular and Cytogenetics testing.
MUST INCLUDE PATIENT NAME/DOB

Patient Last/First Name: _____ Patient Date Birth: ____/_____/_____

OLECULAR & GENOMIC PATHOLOGY (MGP)

Molecular Oncology Test(s) Requested * Check All That Apply *

Lymphoid Neoplasms- *NOT MRD/ Not Post Therapy*	**Myeloid Neoplasms** *(Bone Marrow Aspirate preferred)*- ***NOT MRD***
○ **TP53 NGS** (mutations and copy number alterations)	○ **Myeloid NGS Panel** (54 genes, including FLT3, NPM1, TP53, JAK2, MPL, CALR, CEBPA) ***If BMA, test will be held; reviewing Pathologist will order if appropriate.***
○ **B-Cell Clonality Analysis** (IgH and IgK gene rearrangement testing, PCR)	○ **FLT3 Analysis** includes internal tandem duplication with allelic ratio and 835/836 codon analysis, PCR
○ **T-Cell Clonality Analysis** (Beta and Gamma chain gene rearrangement, PCR)	
Minimal Residual Disease	**Single Gene Testing – *NOT MRD/ included on Myeloid NGS***
○ **t(9;22) BCR-ABL1 Quantitative** RT-PCR Major (M) Breakpoint	○ ***CALR* (Calreticulin) Mutation Analysis** exon 9, Sanger Sequencing
○ **t(9;22) BCR-ABL1 Quantitative** RT-PCR Minor (m) Breakpoint	○ **JAK2 V617F Mutation Testing** myeloproliferative disorders, PCR
○ **t(15;17) PML-RARA Translocation** RT-PCR intron 3 breakpoint	○ **CEBPA Gene Sequencing** for mutations, Sanger Sequencing **Bone Marrow Aspirate preferred*
○ **t(15;17) PML-RARA Translocation** RT-PCR intron/exon 6 breakpoint	○ **Comprehensive Hematopathology Molecular Analysis as per Pathologist: Based on BM evaluation – *BMA only***
○ **NPM1, Quantitative testing** (Types A, B and D)	
○ **Other (please specify):**	○ **DNA/RNA Storage**

UPMC CYTOGENETICS LABORATORY

Disease Phase	**Test Requested (MUST be completed)**
○ **New Diagnosis**: ○ **Relapse**	○ ***Comprehensive Hematopathology Cytogenetic Analysis as per Pathologist*** *(includes karyotype, FISH tests and/or panel, oncology microarray testing, diagnosis specific)* ○ **Culture and Hold** (*Relevant diagnostic testing will be ordered by the reviewing pathologist*) ○ **Chromosome Analysis (Karyotype) with Confirmatory FISH Testing*** ○ **PML/RARA FISH** (reflex to RARA breakapart if necessary; STAT for new diagnosis only) ○ **BCR/ABL1 t(9;22) FISH**
	○ **Integrated B-ALL Package:** B-ALL FISH panel**, Onco Array, Karyotype* ○ **T-ALL Package:** T-ALL FISH Panel**, Karyotype ○ **Onco Array**
	○ **Integrated MDS Package:** Onco Array, Karyotype* ○ **Integrated AML Package:** Onco Array, Karyotype*, FISH** (CBFB; RUNX1T1/RUNX1; KMT2A) rearrangements
	○ **Integrated CLL Package:** Onco Array (CD19+ or whole PB/BM), Karyotype*, complementary FISH testing**
	○ **MM Package** (includes plasma cell separation)**:** Karyotype, FISH (IGH, IGH/MYC); MM Microarray, Includes Reflex FISH for IGH partners (CCND1, FGFR3, CCND3, MAF, MAFB)**
○ **Remission (Post Therapy)**	○ **Culture and Hold** ○ **Karyotype** ○ **MM Follow-up CD138+ FISH** ○ **Follow-up FISH (specify):**
	Unless specified, ONLY follow–up FISH testing for previously detected abnormal clone(s) will be performed on remission specimens once an initial FISH testing has been performed.
○ **Post- Transplant**	○ **XX/XY donor FISH test**
○ **Other Test**	○ **FISH as per Pathologist (specify):**

○ **Post-Bone Marrow Transplant:** Days post transplant_____ **Genetic Sex of Donor:** ○ Male ○ Female

**Confirmatory FISH testing for clinically relevant regions will be performed on samples with abnormal karyotypes according to the laboratory best practice and diagnostic guidelines. Laboratory reserves the rights to determine a suitable methodology for testing including unstimulated and/or stimulated short and long-term cultures, FISH and/or microarray assay preferences, and FISH probe selection.*

***Visit our website for complete probe and panel listing as well as disease-specific testing approaches (*www.pittgenetics.org*)*

Specimen Requirements (Each laboratory requires an individual specimen)

Clinical Flow Cytometry Laboratory	Bone Marrow (2 ml Green top) Peripheral Blood (5 ml Purple top)	Ship at room temp by overnight delivery in a properly labeled shipping container for biohazard substances. If bone marrow, send one non-heparinized, unstained bone marrow slide if possible.
Molecular & Genomics Pathology Laboratory	Bone Marrow (3 ml Purple top) Peripheral Blood (3 ml Purple top)	Blood should be refrigerated until shipment at 4°C. Ship at room temp by overnight delivery in a properly labeled shipping container for biohazard substances
	○ **(MUST complete Molecular & Genomic Pathology Laboratory section above)**	
UPMC Cytogenetics Lab (Classical, FISH, Microarray)	Bone Marrow (3 ml Green top) Peripheral Blood (1 ml min. Green top)	Specimen should be drawn in a heparinized syringe and placed in a Green top (sodium heparin) tube. Ship at room temp. **An additional 1 ml Purple top (EDTA) tube is needed for microarray orders.**
	○ **(MUST complete UPMC Cytogenetic Laboratory section above)**	