

FLOW CYTOMETRY

Test Description	Specimen Type	Preservative	Volume
Leukemia/Lymphoma/MDS Screening Panel	Bone Marrow/ Peripheral Blood,	Sodium Heparin (Green Top)	2-3 ml
T-LGL addon		Or	
CLL addon		EDTA (Lavender Top)	
NHL addon		N/A	
AML/ALL addon		RPMI	
Plasma Cell Malignancy	Fresh Tumor	RPMI	1-5 cm ³
High Sensitivity PNH	Peripheral Blood	EDTA	2 ml

HISTOLOGY

Test Description	Specimen Type	Preservative	Volume
Smear Morphology	Core Biopsy, Blood Clot, or Aspirate Slides	Formalin	N/A
Special Stains: Giemsa, Iron, PAS, Reticulin, Congo, Red, Trichrome, AFB, GMS		Formalin	N/A
Bone Marrow Workup (H&E, Special Stains: Giemsa, Iron, PAS, Reticulin)		N/A	5 slides
Immunohistochemistry: ALK1, Annexin A1, BCL1(CCND1), BCL2, BCL6, BOB.1, Calretinin, CD10, CD103, CD117, CD138, CD14, CD15, CD19, CD20, CD71, CD1a, CD2, CD21, CD25, CD3, CD30, CD34, CD38, CD4, CD43, CD45(LCA), CD5, CD56, CD61, CD68, CD79a, CD8, CDX2, CK20, CK5/6, CK903, C-Myc, Desmin, EBER, E-Cadherin, EGFR(del), EGFR(L858R), Fascin, GCDFP-15, Glycophorin A, H.Pylori, HMB45, IgA, IgG, IgM, ISH, Kappa ISH, Ki-67, Lambda ISH, Lysozyme, MCT(Tryptase), Melan A, MPO, MUM1, Oct2, p16, p40, p63, PAX-5, PAX-8, PCK(AE1/AE3), PSA, PSAP, S100, SMA, SOX-10, TdT, Vimentin, WT1	Core Biopsy, Blood Clot, FFPE Tissue (paraffin block), Positively charged slide	Formalin Formalin N/A	N/A N/A N/A

CYTOGENETICS - KARYOTYPING

Test Description	Specimen Type	Preservative	Volume
Chromosome Analysis	Bone Marrow/ Peripheral Blood	Sodium Heparin – (Green Top)	2 ml

CYTOGENETICS- FLUORESCENCE IN-SITU HYBRIDIZATION (FISH)

Disease State & Probes	Specimen Type	Preservative	Volume
MDS: 5q, 7q, +8, 20q, ETV6, MLL, PML/RARA t(15;17), MECOM, +19	Bone Marrow/ Peripheral Blood	Sodium Heparin (Green Top) Or EDTA (Lavender Top)	2-3 ml
AML: RUNX1T1/RUNX1 t(8;21), PML/RARA t(15;17), MLL, CBFβ			
APL: PML/RARA t(15;17)			
MPN/Eosinophilia: PDGFRα/CHIC-2/FIP1L, PDGFRβ, FGFR1, JAK2, BCR/ABL t(9;22), +19			
CML: BCR/ABL t(9;22)			
MPD: 5q, 7q, +8, 20q, ETV6, MLL, PML/RARA t(15;17), MECOM, +19, BCR/ABL t(9;22)			
Multiple Myeloma (MM): 1p36/1q21, p53, +9, CCND1/IGH t(11;14), 13q14.3/13q34			
Extended MM Panel (reflex): FGFR3/IGH t(4;14), IGH/MAF t(14;16), IGH rearrangement			
CLL: CCND1/IGH t(11;14), +12, 11q, p53, 13q14.3/13q34			
DLBCL/B-cell Lymphoma: BCL6, IGH/BCL2 t(14;18), MYC/IGH t(8;14), CCND1/IGH t(11;14)			

CYTOGENETICS- FLUORESCENCE IN-SITU HYBRIDIZATION (FISH) *Continued*

Disease State & Probes	Specimen Type	Preservative	Volume
Follicular Lymphoma (FL): BCL6, IGH/BCL2 t(14;18), CCND1/IGH t(11;14)	Bone Marrow/ Peripheral Blood	Sodium Heparin (Green Top) or EDTA (Lavender Top)	2-3 ml
LPD: 7q, BCL6, IGH/BCL2 t(14;18), MYC/IGH t(8;14), CCND1/IGH t(11;14), BIRC3/MALT1 t(11;18)			
LPL: 5q, MYB (6q), CCND1/IGH t(11;14), MYC/IGH t(8;14), FGFR3/IGH t(4;14)			
Marginal Zone Lymphoma (MZL): 7q, BCL6, CCND1/IGH t(11;14), BIRC3/MALT1 t(11;18)			
Mantle Cell Lymphoma (MCL): CCND1/IGH t(11;14)			
T-Cell Lymphoma: 1p36/1q21, BCR/ABL t(9;22), +8, 20q, ETV6/RUNX1 t(12;21)			
ALL: 1p36/1q21, BCR/ABL t(9;22), MLL, ETV6/RUNX1 t(12;21), IGH rearrangement			

MOLECULAR

Test Description	Specimen Type	Preservative	Volume
IgVH	Bone Marrow/ Peripheral Blood	EDTA (Lavender Top)	BM: 3 ml PB: 4 ml
B-Cell Gene Rearrangement			
BCR/ABL1 (p.190, p.203, p.210, p.230) w/ABL mutation analysis (Quantitative)			
MYD88 with reflex to CXCR4			
T-Cell Gene Rearrangement			
HemeScreen® for Cytopenia (ASXL1, WT1, DNMT3A (Exon 23), SF3B1)	Bone Marrow/ Peripheral Blood	Sodium Heparin (Green Top) or EDTA (Lavender Top)	1-2 ml
HemeScreen® for AML (IDH1, IDH2, KIT, FLT3, NPM1, CEBPA)			
HemeScreen® for CLL (SF3B1, CXCR4, MYD88, NOTCH1)			
HemeScreen® for MPN (JAK2 Exons 12, 13, 14 (V617F), CALR, MPL)			

NEXT GENERATION SEQUENCING (NGS)

Test Description	Specimen Type	Preservative	Volume
NGS-177 Hematologic Malignancies Panel	Bone Marrow/ Peripheral Blood	EDTA – (Lavender Top)	1-2 ml

NGS-177 GENES

ABL1	B2M	CALR	CDK6	CTNNA1	FANCC	GNAS	JAK3	MAP2K2	MYC	PDGFRB	PTPN11	SMAD4	TGFB2
AKT1	BCL2	CARD11	CDKN2A	CUX1	FANCD2	H3F3A	KAT6A	MAP2K4	MYD88	PHF6	RAD21	SMARCA4	TP53
AKT2	BCL2L1	CBL	CDKN2B	CXCR4	FANCE	HNF1A	KDM5C	MAP3K1	NFKBIA	PIK3CA	RAD50	SMARCB1	TSC1
AKT3	BCL6	CBLB	CDKN2C	DDR2	FANCF	HOXB13	KDM6A	MAP3K14	NOTCH1	PIK3R1	RAD51	SMC1A	TSC2
ALK	BCOR	CBLC	CEBPA	DICER1	FANGC	HSP90AA	KDR	MAPK1	NOTCH2	PIK3R2	RB1	SMO	TSHR
AMER1	BCORL1	CCND1	CHEK1	DNMT3A	FAS	IDH1	KEAP1	MCL1	NOTCH3	PIM1	RHOA	SOCS1	WT1
APC	BCR	CCND3	CHEK2	EP300	FBXW7	IDH2	KIT	MDM2	NPM1	PLCG1	RNF43	SRC	ZNF217
ARID1A	BIRC3	CD274	CIC	ERG	FLT3	IGF1R	KMT2A	MDM4	NRAS	POLD1	RUNX1	SRSF2	ZRSR2
ARID1B	BLM	CD79A	CREBBP	ETV6	GATA1	IKZF1	KMT2B	MEF2B	NSD1	POLE	SDHB	STAG2	
ARID2	BRAF	CD79B	CRLF2	EZH2	GATA2	IKZF3	KMT2C	MPL	PALB2	PPM1D	SETBP1	STAT3	
ASXL1	BRCA1	CDH1	CSF1R	FAM175A	GATA3	IRF4	KMT2D	MRE11A	PAX5	PPP2R1A	SETD2	STK11	
ATM	BRCA2	CDK12	CSF3R	FAM46C	GEN1	JAK1	KRAS	MTOR	PBRM1	PTCH1	SF3B1	TERT	
ATRX	BTK	CDK4	CTNNA1	FANCA	GNAQ	JAK2	MAP2K1	MUTYH	PDGFRA	PTEN	SMAD2	TET2	