

# Ancillary testing

**ARUP MOLECULAR SEND-OUTS:** Order MSO and test code, or order code (if provided).

Test	Method	Test Code	Association
AML1-ETO, t(8:21)	RT-PCR	0050444	AML with t(8:21)
AP12-MLT1, t(11:18)	RT-PCR	0055691	Malt lymphoma
B cell clonality	PCR	0055552	NHL
Bcl-1/JH, t(11:14) - PCR	PCR	0055557	Mantle cell lymphoma
Bcl-2/JH, t(14:18) - PCR	PCR	0055616	Follicular lymphoma
Bcr/abl, t(9:22), qualitative	RT-PCR	BCR	CML
Bcr/abl, t(9:22), quantitative	RT-PCR	BCRABL	CML
Bcr/abl kinase domain mutation analysis	PCR/ sequencing	0040138	Treatment resistant CML
Chimerism	PCR/frag analysis	CHIMR CHIMP	Pre-transplant chimerism Post-transplant chimerism
CEBPA mutation	PCR	92328	AML
CMV	PCR	0060031	CMV infection
DNA extraction RNA extraction		DNAEX RNAEXT	Extraction of DNA and/or RNA, reserved for possible molecular studies
E2A-PBX1 t(1:19)	RT-PCR	0055346	ALL with t(1:19)
FLT3 mutation	PCR	2001577	AML
IgVH mutation analysis	PCR	0040227	CLL
Inversion (16), qualitative	RT-PCR	0092209	AML with inv (16)
JAK2 (V617F) mutation, qualitative	PCR	0051245	PV, ET, CIMF
JAK2 (V617F) mutation, quantitative	PCR	0040168	PV, ET, CIMF
JAK2 Exon 12 mutation	PCR	2002357	PV
KIT mutations in AML	PCR/ sequencing	2002437	AML with inv16 or t(8:21)
KIT(D816V) mutation, Mastocytosis	PCR	0040137	Mastocytosis
MLL-AF4 t(4:11)	RT-PCR	0050446	ALL/AML with t(4:11)
NPM1 mutation	PCR	0040174	AML
Parvovirus B19	PCR	0060028	Aplastic anemia
PML/RARA, t(15:17), quantitative	RT-PCR	PMLAT	APL with t(15:17)
T-cell clonality	PCR	0055567	Non-Hodgkin lymphoma
TEL-AML1, t(12:21)	RT-PCR	0056008	ALL

**OTHER ARUP SEND-OUTS:** Order MSO and indicate test code

Test	Method	Test Code	Association
PNH Profile, WBC	Flow cytometry	0096666	PNH
PNH Profile, RBC	Flow cytometry	0095864	PNH
T cell clonality by flow cytometric analysis of TCR V-Beta	Flow cytometry	0093199	NHL
ZAP-70, flow cytometry	Flow cytometry	0092392	CLL

**SEND-OUTS NOT OFFERED AT ARUP:** Order MSO and forward through ARUP.

Test	Method	Laboratory	Test code	Association
Inversion(16), quantitative	RT-PCR	Quest	14992X	AML with inv 16, A subtype only
t(8:21), quantitative	RT-PCR	Quest	14995X	AML with t(8:21)

**ARUP FISH STUDIES:**

**\*To order FISH:** With the exception of the multiple myeloma (MMF) and CLL (FISHCL) panels, and t(15:17) (FISHP), use order code FISHI and indicate panel/probe(s) requested.

**\*To order Reflex FISH:** write "perform FISH testing for [probe requested] if cytogenetics are normal" at the bottom of the ARUP patient history cytogenetic form. Do NOT order FISHI for Reflex FISH.

Disease/Panel	Probes	Aberration
IHC B-ALL panel	11q23 14q32 del 9p21 19p13 8q24	MLL rearrangement Igh p16 (CDKN2) deletion E2A rearrangement MYC rearrangement
IHC T-ALL panel	11q23 del 9p21	MLL rearrangement p16 (CDKN2) deletion
IHC AML panel	t(8:21) inv(16) 11q23 del(5)(q31) del(7)(q31)-7	AML1/ETO CBFB MLL 5q deletion 7q deletion/monosomy 7
APL	t(15:17) (APL)	PML/RAR $\alpha$
CLL (FISHCL)	del(11)(q22.3) +12 del(13)(q14.3) del(17)(p13.1)	ATM deletion Trisomy 12 D13S319 deletion P53 deletion
Lymphoma Anaplastic large cell lymphoma Burkitt lymphoma	2p23 8q24 t(8:14) 3q27 t(14:18)	ALK rearrangement c-myc/IGH c-myc/IgH BCL6 IGH/BCL-2
Diffuse large B cell lymphoma Follicular lymphoma Igh rearrangement Mantle cell lymphoma	14q32 t(11:14)	IGH rearrangement IGH/BCL-1 (CCND1)
Myelodysplasia	del(5)(q31) del(7)(q31)-7 del(20)(q12) +8	5q deletion 7q deletion/monosomy 7 20q deletion Trisomy 8
Myeloproliferative neoplasms CML CEL CMML with eosinophilia Myeloid and/or lymphoid neoplasms with eosinophilia	t(9:22) 4q12, CHIC2 5q33.1 8p12	BCR/ABL PDGFRB PDGFRB FGFR3 FGFR1
Multiple myeloma panel (MMF)	del(13)(q14.3) 14q32 del(17)(p13.1) t(11:14) t(4:14) t(14:16)	D13S319 deletion Igh rearrangement P53 deletion IGH/BCL1 (CCND1) FGFR3/IGH IGH/MAF
Bone marrow transplant	XX vs XY	Can establish presence of donor cells if donor sex differs from recipient