

Genes abnormalities and markers of hematology lectures:

Acute leukemia, chronic leukemia, MPN (Polycythemia), Lymphoma

Lymphoid		Genes abnormalities	Markers	
ALL	B-ALL	t (9;22) = BCR-ABL1 t (4;11) t (12;21) t (5;14)	CD34 & TDT	CD10 CD19 CD22 CD79a
	T-ALL			CD3 - CD8
CLL			Surface immunoglobulin, CD5 , CD23 , CD20 , CD19 , IgM or IgD	
Mantle lymphoma		t(11;14): Cyklin D	Surface immunoglobulin, CD20 , CD19 , CD5	
Burkitt lymphoma		t(8;14): C-myc	Surface immunoglobulin, CD20 , CD19 , CD10	
DLBCL		t(3;14): BCL-6		
Follicular lymphoma		t(14;18): BCL-2		
Multiple myeloma			Surface immunoglobulin, CD20 , CD38 , CD138 , CD56 . IgG or IgA or IgE	
Hodgkin lymphoma			CD30 & CD15.	

Myeloid		Genes abnormalities	Markers
AML	M2	t (8;21) AML1-ETO	CD34 MPO
	M3	t (15;17) PML-RARA	CD13 CD33
	M4	t (16;16) or inv(16)	CD14 CD64
	M5	t (9;11)	CD117
	M6		CD235a
	M7		CD41
MPN	CML	t (9;22) = BCR-ABL1	Notes: <ul style="list-style-type: none"> MPN+MDS= CMML JAK2 point mutation (at codon 617 in JH2) leads to loss of auto inhibitory control over JAK2.
	PV	JAK2 (97%)	
	ET	JAK2 (50-60%)	
	PMF	CALR (30%)	
MDS		-5, -7 deletions	