

Comparative genome profiling across subtypes of low-grade B-cell lymphoma identifies type-specific and common aberrations that target genes with a role in B-cell neoplasia

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Table S1. Summary of clinical, genetic (FISH) and copy number karyotypes of each tumor.

Sample ID	Age / Gender	Immunophenotype	FISH	Tissue	Tumor cells (%)	Clinical stage	DNA copy number changes*
Follicular lymphoma (FL)							
1	63/F	Positive for BCL2 CD10, BCL6	Positive for BCL2/IgH	Lymph Node	> 80	II	-4(q34.2-qtel); -10(q23.1-q25.1); +17(q21.32-qtel)
2	64/F			Lymph Node		IVB	NC
3	51/M			Lymph Node		IA	+7; +11
4	68/M			Lymph Node		IV	+1q; +2
5	53/F			Lymph Node		II	NC
6	45/M			Lymph Node		I	+5; -5q13.2; +6(q22.31-q23.2); -6(p24.3-p24.1) (q12) (q16.3-q22.31) (q23.2-q24.1); +16(p13.12)
7	57/F			Lymph Node		II	+16(p12.3-p13.12)
8	40/M			Lymph Node		IV	+18
9	617M			Lymph Node		II	-1(p36.12-ptel); -6(qcentro-q22.3) (q24.1)
10	48/M			Lymph Node		I	+6p; -6q; +12(qcentro-q21.31); +18(ptel-q22.1)
11	53/F			Lymph Node		I	+7; +8; -10(q23q25)
12	39/F			Lymph Node		IV	+2; +5; +8; +10; +12; +18(ptel-q22.1)
13	54/F			Lymph Node		IV	-1(ptel-p36.23) (q31.32); -2(q22.3-q23.2); +7; +8(q12.3-qtel); +19(q13.41-qtel)
14	56/M			Lymph Node		II	+18
15	50/F			Lymph Node		IV	-2(q14.3); +7p; +13(q32.1-qtel); -17(p13.2-p12); -20(q11.22); +21(q21.3-qtel); -22(q11.22)
Chronic Lymphocytic Leukemia (CLL)							
16	65/F	Positive for BCL2, CD5, CD43, CD23	del(11)(q22)	Lymph Node	>80	IA	-11(q14.1-q24.1)
17	63/M		del(11)(q22)	Lymph Node		IA	-11(q14.1-q24.1); -22(q11.22)
18	70/M			Lymph Node		IA	-11(q14.1-q24.1); -22(q11.22)
19	65/M		del(11)(q22), del(13)(q14), del(17)(p13.2)	Lymph Node		II	+2(ptel-p14); +3(p22.1-p21.32); +5(q34-qtel); +9(ptel-p21.3); +12(ptel-p13.32); +13(q22.2-qtel); -17(ptel-p13.2)
20	59/F			Lymph Node		IA	-6(q14.3-q22.1)
21	62/M			Lymph Node		IA	+3(q13.33-qtel); -6(q22.33-qtel); -9(p13.2)
22	68/M			Lymph Node		IA	-16(p13.12); -22(q11.22)
23	70/F		del(11)(q22)	Lymph Node		IA	-11(q14.1-q24.1)
24	58/M		del(11)(q22)	Lymph Node		I	+2(ptel-p12); -11(q14.3-q23.2)
25	64/M		del(11)(q22),+12	Lymph Node		I	-11(q22.1q23.2); +12
26	55/M		del(13)(q14)	Lymph Node		IB	-13(q14.2) (q32.2)
27	69/M			Lymph Node		IB	NC
28	62/F			Lymph Node		II	NC
29	75/M		del(13)(q14)	Lymph Node		IV	-13(q13.3-q14.2); -15(q15.2); -16(q24.2-qtel)
30	70/F			Lymph Node		IA	NC
Mantle Cell Lymphoma (MCL)							
31	73/F	Positive for BCL2, CCND1, IgD, CD5, CD43	CCND1/IgH	Spleen	>80	IV	+11(q13.4-q14.1); +14(q32.32-qtel)
32	73/M			Lymph node		IIIA	-1(p36.21-p36.12) (p32.2-p13.2) (q22-q23.2); -9(p23) (p21.2-p13.2) (q21.11) (q21.31-q21.33); -12(p12.1); +12(p12.3-p12.1) (p12.1); -17p
33	77/M			Lymph node		IV	+3(q22.1-qtel); -5q; -9; -10(q21.3-qtel); +11(q12.3) (q13.4); -13(q12.2-qtel); +17(q25.2)

34	57/M		Lymph node		IV	-1(q21.2-q24.1); -8(ptel-p12) (p11.22) (q12.3-q21.11) (q21.3); +8 (q21.11-q21.13) (q21.13-qtel); -11(q134-qtel); -12(q23.3-qtel); +12(q13.12-q14.1); -15(qcentro-q22.32); -17p; -17(q12-q21.32); -19(q13.32)
35	40/M		Lymph node		IIIA	+3
36	71/M		Lymph node		IV	+3(q22.3-qtel); +6(ptel-p21.32); -6(q25.2-qtel); +7(ptel-p15.2); -9(p21.3-p21.1); -13(q12.2-q13.1) (q13.1-qtel); +15(q22.2-q25.3); -17(q12); -19(q13.12-q13.2); -22(q11.22)
37	72/F		Spleen		II	-1(p13.2-p31.3); -2(p16.3-p16.1) (p14-pcentro) (q12.1); -6(q16.1-qtel); -9(pcentro-p21.1) (p13.2-pcentro); -10(ptel-p12.31); +10(p12.31-p11.22); -13(q13.1-q21.31)
38	55/M		Lymph node		IV	-3(pcentro-p21.32); -6(q12) (q14.1-qtel); +6(q14.1); -7(q31.1-q35); -8(qcentro-q13.2); +8(q24.21-qtel); -10(pcentro-p12.31) (p12.1-p11.22) (q11.22) (q21.1); +10(p12.31-p12.1) (qcentro-q11.22) (q11.22); -11(q23.2); +11(q13.4-q14.1) (q23.2-qtel); -13(q12.2-qtel); -14(q24.2-q32.2); +14(q21.3-q24.2) (q32.32 qtel); +15(q23.32-qtel); -16(q12.2-q21); -17p; -17(q22-q23.2)
39	63/F		Spleen		IV	+3(q21.2-qtel); -6(ptel-p24.1); +6(p24.3-p22.3); +7(ptel-p14.1); -9p; -9(qcentroq33.1); +12p; +12(q13.12-q21.1); +18(q21.2-q22.3); -22
40	70/F		Lymph node		IV	-1(p31.1-p21.1); -6(q12-q25.2); -8(ptel-p12); -10(ptel-p12.1); +18 (q21.32-qtel); -19(q13.32-q13.41); +19(q13.32)
41	64/M		Lymph node		II	-1(q22-q24.1); +2(q31.2-qtel); +3(q26.1-qtel); -6(q14.1-qtel); -10(ptel-p12.33) (q21.3-q26.2); +10(p12.33-pcentro); -11(q14.3-q23.2); -13(q31.3-qtel); +15(q23.32-qtel); -15(q12-q23); -16(q22.2-qtel); -17p; -17q
42	49/M		Lymph node		IVA	-1(p21.3-p13.2); -7(q22.2-q35); -18(p); +18(q)
43	62/M		Lymph node		IV	-6(q14.3-qtel); -7(q21.11-q21.3) (q31.1-qtel); +7(q22.2); +15(q21.1-qtel); -17p; -17(q23.2)
44	57/M		Lymph node		IIIA	-1(pcentro-p13.2) (q21.2-q24.3); -8(q11.22-q13.2); -9del (ptel-p21.1); -11(q22.3-q23.2); -14(q23.1-q32.12); -15(q25.3-qtel); +15(q21.1-q25.3)

Nodal Marginal Zone Lymphoma (NMZL)

45	73/F	Positive for BCL2; Negative for IgD	Lymph Node	>80	IIIB	-3(p21.2-p21.32); -19
46	75/M		Lymph Node		IIIB	-1(p34.2-ptel); +15(q25.3); +19(ptel-p13.12)
47	65/M		Lymph Node		IIIB	+12
48	74/F		Lymph Node		IIIB	NC
49	68/M		Lymph Node		IIIB	+18(q12.3-qtel)
50	67/F		Lymph Node		IIIB	+8(q24.21-qtel); -13(q14.2); -15(q26.2-qtel)
51	72/M		Lymph Node		IIIB	+3; +6
52	75/M		Lymph Node		IIIB	NC
53	71/M		Lymph Node		IVA	-1(p35.3p36.12); +1q; +2(ptel-q12.1); +3q; +5p (qcentro-q14.1) (q34-qtel); +6p; -6(q16.3-qtel); +7p (q21.11-qtel); -8p (qcentro-q13.2); +11p; +12; +16; -17p; +17(q22-qtel); +18; +19q; +21; +22

Lymphoplasmacytic Lymphoma (LPL)

54	55/M	Negative for BCL6, CD10, CD23, CD5, CD43, CCND1	Lymph Node	>80	IV	+2(p24.2-p24.1) (p23.2-p22.3) (p16.1-p14) (p12); -15(q21.1-q14); +18; -19
55	61/M		Spleen		IV	-19
56	70/F		Lymph Node		IV	-6q
57	67/M		Lymph Node		IV	NC
58	66/M		Lymph Node		IV	+12
59	75/F		Lymph Node		IV	-6(q23.2-q243); -12(q24.12); +13(q31.3)
60	53/F		Lymph Node		IV	-1(p35.3); -6q
61	74/M		Lymph Node		IV	+19
62	75/F		Spleen		IV	+3(q22.1-qcentro); -15(15.2-q21.1); -19
63	63/M		Lymph Node		IV	+6(p21.32-ptel); -11(q13.2-qtel); -15(q15.2-q21.1); -19

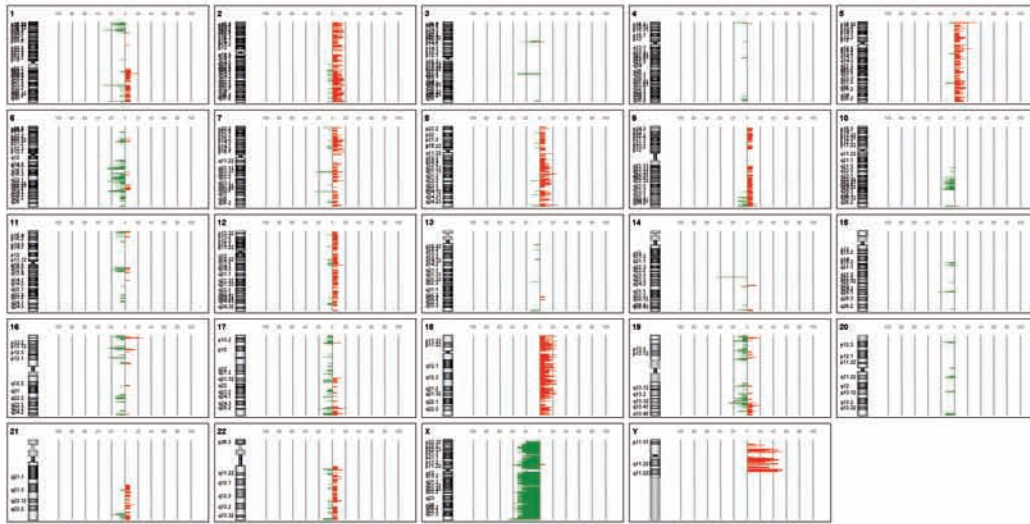
Splenic Marginal Zone Lymphoma (SMZL)

64	67/F	Positive for BCL2, IgD	Spleen	>80	IV	-7(q31.1-q35)
65	67/F		Spleen		IV	-7(q31.1-qtel)
66	56/F		Spleen		IV	-1(ptel-p33); +1q; +3(q26.33-qtel); +9p; -9q; -12(ptel-q12) (q21.1-qtel); +12(q12-q21.1); +16
67	54/F		Spleen		IV	NC
68	65/F		Spleen		IV	NC
69	72/F		Spleen		IV	-7(q31.31-qtel); +8q; -17p; +22(q13.2-qtel)
70	69/F		Spleen		IV	-14(q24.2-q32.2); -16(p12.1)
71	74/M		Spleen		IV	NC
72	66/F		Spleen		IV	-3(p21.2); -7(q31.1-q35); -22(q11.22)
73	72/M		Spleen		IV	-13(q14.12-qtel)
74	70/F		Spleen		IV	-13(q14.2)
75	69/F		Spleen		IV	+3
76	53/M		Spleen		IV	+3; +12; +18; +19; -21(q21.3)
77	69/F		Spleen		IV	-7(q31.33-qtel)
78	71/F		Spleen		IV	-7(q11.22) (q31.31-q36.2)
MALT						
79	58/M	Positive for BCL2; Negative for IgD	Biopsy of Gastric Mucosa	40-60	I	NC
80	84/M	NA	Biopsy of Gastric Mucosa	>70	I	-7(q11.22); -15(q12)
81	56/F	NA	Parotid gland	40-60	II	NC
82	57/M	NA	Biopsy of Gastric Mucosa	40-60	I	NC
83	60/F	MALT1 (+)	Biopsy of Gastric Mucosa	40-60	I	NC
84	63/F	NA	Biopsy of Gastric Mucosa	40-60	I	NC
85	62/M	NA	Parotid gland	40-60	I	NC
86	50/F	NA	Skin biopsy	50-70	I	-1(q31.3)
87	52/F	NA	Skin biopsy	50-70	I	NC

NA: not available

* (-) denotes: copy number loss; (+) denotes: copy number gain, (tel) denotes: telomer; (centro) denotes: centromer; (NC) denotes: no changes

Follicular Lymphoma (FL)



Chronic Lymphocytic Leukemia (CLL)

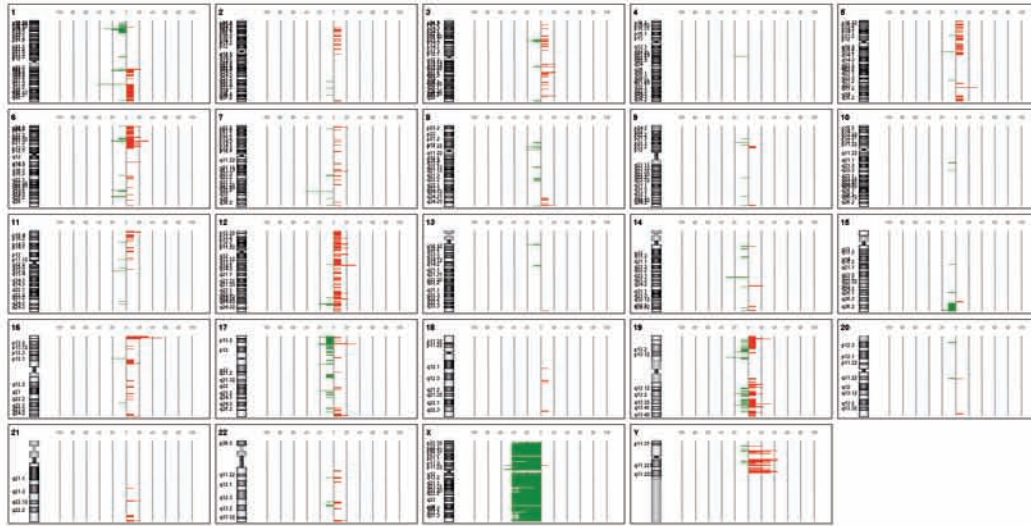


Mantle Cell Lymphoma (MCL)

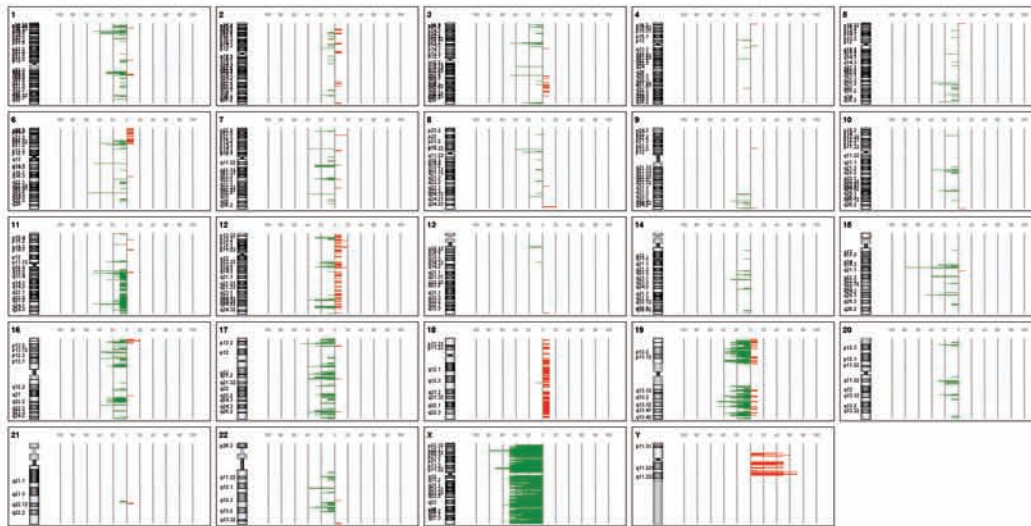


Figure S1A. Frequency plots of the copy number aberrations for each sub-group.

Nodal Marginal Zone Lymphoma (NMZL)



Lymphoplasmacytic Lymphoma (LPL)



Splenic Marginal Zone Lymphoma (SMZL)



Figure S1B. Frequency plots of the copy number aberrations for each sub-group.

Table S2. Summary of genomic instability parameters.

A

Samples	Follicular Lymphoma (FL)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CNT	4	0	0	1	0	16	2	0	6	4	2	1	5	0	11
N° Chr high level amplification	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Propensity to amplify	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
N° Chr Homozygous deletions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N° Chr NO events	19	22	20	20	22	18	21	21	20	19	19	14	17	21	15
N° Chr with structural events	3	0	0	1	0	3	1	0	2	3	1	1	4	0	7
N° Chr >1 transition per arm	1	0	0	0	0	4	1	0	1	0	1	0	1	0	4
N° Chr =<1 transition per arm	21	22	22	22	22	18	21	22	21	22	21	22	21	22	18

B

Samples	Chronic Lymphocytic Leukemia (CLL)														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CNT	2	4	4	17	2	4	5	2	3	4	4	0	0	5	0
N° Chr high level amplification	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Propensity to amplify	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No
N° Chr Homozygous deletions	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0
N° Chr NO events	21	20	20	13	21	19	19	21	20	19	21	22	22	19	22
N° Chr with structural events	1	2	2	9	1	3	3	1	2	2	1	0	0	3	0
N° Chr >1 transition per arm	1	1	1	4	1	1	2	1	1	2	1	0	0	3	0
N° Chr =<1 transition per arm	21	21	21	18	21	21	20	21	21	20	21	22	22	19	22

C

Samples	Mantle Cell Lymphoma (MCL)													
	31	32	33	34	35	36	37	38	39	40	41	42	43	44
CNT	4	16	10	18	2	17	18	38	15	10	15	5	11	13
N° Chr high level amplification	0	0	0	0	1	0	0	2	1	0	0	0	0	0
Propensity to amplify	No	No	No	No	yes	No	No	Yes	Yes	No	No	No	No	No
N° Chr Homozygous deletions	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N° Chr NO events	20	17	16	15	21	13	16	10	15	16	12	19	18	16
N° Chr with structural events	2	4	5	7	0	9	6	12	6	6	10	3	4	6
N° Chr >1 transition per arm	2	3	2	5	1	6	5	10	5	3	3	2	3	5
N° Chr =<1 transition per arm	20	1	20	17	21	16	17	12	17	19	19	20	10	17

D

Samples	Nodal Marginal Zone Lymphoma (NMZL)									
	45	46	47	48	49	50	51	52	53	
CNT	4	4	0	0	1	4	0	0	24	
N° Chr high level amplification	0	0	0	0	0	0	0	0	0	
Propensity to amplify	No	No	No	No	No	No	No	No	No	
N° Chr Homozygous deletions	0	0	0	0	0	1	0	0	0	
N° Chr NO events	19	19	21	22	21	19	20	22	7	
N° Chr with structural events	2	3	0	0	1	3	0	0	10	
N° Chr >1 transition per arm	2	2	0	0	0	1	0	0	6	
N° Chr =<1 transition per arm	20	20	22	22	22	21	22	22	16	

E

Samples	Lymphoplasmacytic Lymphoma (LPL)									
	54	55	56	57	58	59	60	61	62	63
CNT	16	2	1	0	0	6	3	0	5	8
N° Chr high level amplification	0	0	0	0	0	0	0	0	0	0
Propensity to amplify	No	No	No	No	No	No	No	No	No	No
N° Chr Homozygous deletions	0	0	0	0	0	0	0	0	0	0
N° Chr NO events	17	20	21	22	21	19	20	21	18	16
N° Chr with structural events	3	1	1	0	0	3	2	0	3	5
N° Chr >1 transition per arm	3	1	0	0	0	3	1	0	2	3
N° Chr =<1 transition per arm	18	21	22	22	22	19	21	22	20	19

F

Samples	Splenic Marginal Zone Lymphoma (SMZL)														
	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78
CNT	2	2	5	0	0	4	4	0	4	3	4	0	0	0	4
N° Chr high level amplification	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Propensity to amplify	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
N° Chr Homozygous deletions	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
N° Chr NO events	21	20	18	22	22	18	20	22	20	20	20	21	18	22	21
N° Chr with structural events	1	2	3	0	0	4	2	0	2	2	2	0	0	0	1
N° Chr >1 transition per arm	1	0	1	0	0	0	2	0	2	1	2	0	0	0	1
N° Chr =<1 transition per arm	21	22	21	22	22	22	20	22	20	21	20	22	22	22	21