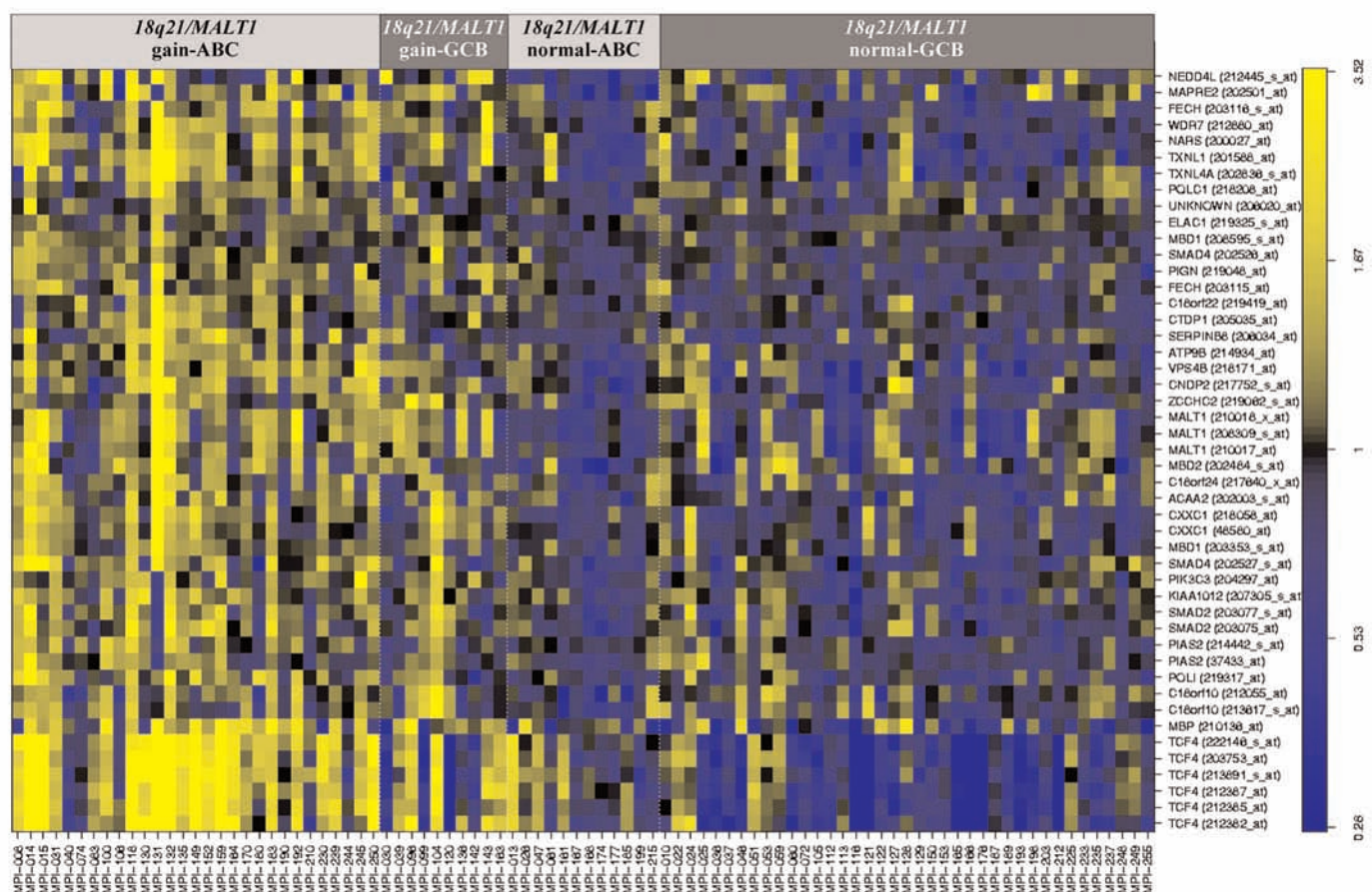


Gain of chromosome region 18q21 including the *MALT1* gene is associated with the activated B-cell-like gene expression subtype and increased *BCL2* gene dosage and protein expression in diffuse large B-cell lymphoma

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Supplementary Figure S1. Differential gene expression between cases with a 18q21 gain including *MALT1* and cases without this gain. By analyzing the genes on chromosome 18 using a gene-by-gene test, we identified 33 differentially expressed genes with an estimated false discovery rate of 0.05. The heatmap shows the relative fold-change of the corresponding 47 probesets with respect to the mean expression in all samples. Samples are ordered with respect to four groups: 18q21/*MALT1* gain-ABC, 18q21/*MALT1* gain-GCB, 18q21/*MALT1* normal-ABC, 18q21/*MALT1* normal-GCB.

Supplementary Table S1. Differentially expressed genes on chromosome 18 in DLBCL with and without gain of 18q21 including *MALT1*.

Cytoband	Gene symbol and name	Probeset	q-value
18q21.31	<i>TXNL1</i> (thioredoxin-like 1)	201588_at	0.00219
18q21.32-q21.33	<i>VPS4B</i> (vacuolar protein sorting 4 homolog B (<i>S. cerevisiae</i>))	218171_at	0.00219
18q21.1	<i>POL1</i> (polymerase (DNA directed) iota)	219317_at	0.00243
18q21	<i>NEDD4L</i> (neural precursor cell expressed, developmentally down-regulated 4-like)	212445_s_at	0.00243
18q21.3	<i>SERPINB8</i> (serpin peptidase inhibitor, clade B (ovalbumin), member 8)	206034_at	0.00243
18q21	<i>MALT1</i> (mucosa associated lymphoid tissue lymphoma translocation gene 1)	210018_x_at 208309_s_at 210017_at	0.00344
0,00396			
0,01772			
18q21.2-q21.3	<i>NARS</i> (asparaginyl-tRNA synthetase)	200027_at	0.00434
18q23	<i>ATP9B</i> (ATPase, Class II, type 9B)	214934_at	0.00434
18q12.1	<i>MAPRE2</i> (microtubule-associated protein, RP/EB family, member 2)	202501_at	0.00623
18q12	<i>CXXC1</i> (CXXC finger 1 (PHD domain))	48580_at 218058_at	0.00623 0,00623
18q21	<i>MBD2</i> (methyl-CpG binding domain protein 2)	202484_s_at	0.00645
18q21.1	<i>SMAD2</i> (SMAD, mothers against DPP homolog 2 (<i>Drosophila</i>))	203075_at 203077_s_at	0.00763 0,01516
18q21.1	<i>TCF4</i> (transcription factor 4)	212385_at 222146_s_at 203753_at	0.00872 0,01778 0,02041
18q23	<i>PQLC1</i> (PQ loop repeat containing 1)	218208_at	0.01027
18q21.1	<i>SMAD4</i> (SMAD, mothers against DPP homolog 4 (<i>Drosophila</i>))	202526_at 202527_s_at	0.01097 0,01734
18q21	<i>MBD1</i> (methyl-CpG binding domain protein 1)	203353_s_at 208595_s_at	0.01098 0,01362
18q23	<i>CTDP1</i> (CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) phosphatase, subunit 1)	205035_at	0.01123
18q21.1-q22	<i>WDR7</i> (WD repeat domain 7)	212880_at	0.01335
18q22.3	<i>CNDP2</i> (CNDP dipeptidase 2 (metallopeptidase M20 family))	217752_s_at	0.0141
18q21.33	<i>PIGN</i> (phosphatidylinositol glycan anchor biosynthesis, class N)	219048_at	0.01545
18q21.1	<i>ACAA2</i> (acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase))	202003_s_at	0.01926
18q23	<i>TXNL4A</i> (thioredoxin-like 4A)	202836_s_at	0.0196
18q21.3	<i>FECH</i> (ferrochelatase (protoporphyrin))	203116_s_at 203115_at	0.0197 0,04608
18q21	<i>ELAC1</i> (elaC homolog 1 (<i>E. coli</i>))	219325_s_at	0.02345
18q21.1	C18orf24 (chromosome 18 open reading frame 24)	217640_x_at	0.02363
18q12.2	C18orf10 (chromosome 18 open reading frame 10)	212055_at 213617_s_at	0.02641 0,04039
18q12.3	<i>PIK3C3</i> (phosphoinositide-3-kinase, class 3)	204297_at	0.02641
18q23	C18orf22 (chromosome 18 open reading frame 22)	219419_at	0.02641
18q21.1	<i>PIAS2</i> (protein inhibitor of activated STAT, 2)	214442_s_at 37433_at	0.03331 0,04924
18q21.33	<i>ZCCHC2</i> (zinc finger, CCHC domain containing 2)	219062_s_at	0.03331
18q12.1	<i>KIAA1012</i> (KIAA1012)	207305_s_at	0.04616
	Unknown	206020_at	0.04924
18q23	<i>MBP</i> (myelin basic protein)	210136_at	0.04924

Supplementary Table S2. Analyzed NF- κ B target genes obtained from Feuerhake *et al.* (Blood 2005;15:1392-9, supplement).

Gene	Common Gene Name(s)	Affymetrix Probe Set(s)	Lymphochip Probe(s)
<i>BCL2</i>	B-cell CLL/lymphoma 2	203685_at	28859; 16789
<i>BCL2A1</i>	BFL1/A1/BCL2-related protein A1	205681_at	28638; 16089; 26039; 24637; 28639
<i>BCL2L1</i>	BCL2-like 1/BCLxL	212312_at; 215037_s_at	16454; 24267
<i>BIRC2</i>	baculoviral IAP repeat-containing 2 (c-IAP1)	202076_at	28475; 33714; 15917
<i>BIRC3</i>	baculoviral IAP repeat-containing 3 (c-IAP2)	210538_s_at	30589; 15916; 28474; 19233
<i>C4orf9</i>	gene near HD on 4p16.3 with homology to hypothetical S. pombe gene	214661_s_at	n.a.
<i>CCL2</i>	chemokine (C-C motif) ligand 2 (MCP1)	216598_s_at	15851; 34426
<i>CCL22</i>	MDC	207861_at	36447; 37437
<i>CCL3</i>	MIP-1 α	205114_s_at	16426; 26474; 26475; 16822
<i>CCL4</i>	MIP-1 β	204103_at	26408; 26409; 28410; 15850
<i>CCND2</i>	Cyclin D2	200951_s_at; 200952_s_at; 200953_s_at; 231259_s_at;	16858; 24787
<i>CCR7</i>	chemokine (C-C motif) receptor 7	206337_at	19339; 32655
<i>CD23A</i>	Fc fragment of IgE, low affinity II receptor for (CD23A) / FCER2	206759_at	17521; 35220
<i>CD44</i>	CD44 antigen (homing function and Indian blood group system)	204489_s_at; 204490_s_at; 209835_x_at; 212014_x_at; 212063_at; 229221_at; 217523_at; 209795_at	30428; 31594; 28684; 24821; 19271; 16140
<i>CD69</i>	CD69 antigen/p60, early T-cell activation antigen	204440_at	16136; 24561
<i>CD83</i>	CD83 antigen/activated B lymphocytes, immunoglobulin superfamily		16610; 30431; 19239; 28216; 27545; 17066
<i>CFLAR</i>	CASP8 and FADD-like apoptosis regulator/c-FLIP	209508_x_at; 208485_x_at; 209939_x_at; 210563_x_at; 210564_x_at; 211316_x_at; 211317_s_at; 211862_x_at; 214486_x_at; 237367_x_at; 239629_x_at	19219; 27384
<i>DUSP1</i>	dual specificity phosphatase 1	201041_s_at; 226578_s_at	26487; 27490; 27478; 17871; 26488; 26517; 26987
<i>DUSP2</i>	dual specificity phosphatase 2	204794_at	27686; 17185
<i>EGR1</i>	early growth response 1	201693_s_at; 201694_s_at; 227404_s_at	24762; 26362; 16960
<i>EMR1</i>	egf-like module containing, mucin-like, hormone receptor-like sequence 1	207111_at	n.a.
<i>HLA-F</i>	major histocompatibility complex, class I, F	204806_x_at; 221978_at	n.a.
<i>ICAM1</i>	intercellular adhesion molecule 1/CD54	202637_s_at; 202638_s_at	16403; 27211; 24268; 28750
<i>IER2</i>	immediate early response 2/ETR-101	202081_at	n.a.
<i>IER3</i>	immediate early response 3/IEX-1	201631_s_at	26533; 26460
<i>IL15RA</i>	interleukin 15 receptor, α	207375_s_at	31845; 16161; 16046
<i>IL2RA</i>	interleukin 2 receptor, α	211269_s_at	25220; 30448; 32634
<i>IL4RA</i>	interleukin 4 receptor	203233_at	28597; 16044; 19298; 19256
<i>IL6</i>	interleukin 6/interferon, β 2	205207_at	25209; 28748; 16736; 24750
<i>IL8</i>	interleukin 8	202859_x_at	17643; 30444; 32630; 25184
<i>IRF1</i>	interferon regulatory factor 1	202531_at	28599; 24405
<i>IRF4</i>	interferon regulatory factor 4	204562_at	16614; 24729; 22122
<i>JUNB</i>	jun B proto-oncogene	201473_at	28950; 17346
<i>KAI1</i>	kangai 1/suppression of tumorigenicity 6, prostate; CD82 antigen	203904_x_at	16425
<i>KLF10</i>	TGF β inducible early growth response, TIEG1	202393_s_at	28201; 26572; 17704; 16592; 27454
<i>LITAF</i>	LPS-induced TNF-alpha factor	200704_at	28695; 34226
<i>LSP1</i>	lymphocyte-specific protein 1	203523_at	27000; 29384; 16400
<i>MYB</i>	v-myb myeloblastosis viral oncogene homolog (avian)	204798_at	24988; 19291; 28014; 17496
<i>NCF2</i>	neutrophil cytosolic factor 2 (65kDa, chronic granulomatous disease, autosomal 2)	209949_at	29574; 29573
<i>Nfkb2</i>	nuclear factor of κ light polypeptide gene enhancer in B-cells 2 (p49/p100)	207535_s_at	27660; 17160
<i>NFKBIA</i>	I κ B α /nuclear factor of κ light polypeptide gene enhancer in B-cells inhibitor, α	201502_s_at	34886; 24829; 24499; 28424
<i>NK4</i>	natural killer cell transcript 4	203828_s_at	19376; 28586; 16034
<i>PASK</i>	PAS domain containing serine/threonine kinase	213534_s_at; 216945_x_at	24442; 31194
<i>PCAM1</i>	Platelet/endothelial cell adhesion molecule / CD31 antigen	208981_at; 208982_at; 208983_s_at	24718; 16837
<i>PRKCD</i>	protein kinase C, delta	202545_at	28967; 17679
<i>RAFTLIN</i>	KIAA0084 protein/raft-linking protein	212646_at	32679; 30246
<i>REL</i>	c-REL/v-rel reticuloendotheliosis viral oncogene homolog (avian)	206035_at; 206036_s_at	27705; 17204
<i>RELB</i>	v-rel reticuloendotheliosis viral oncogene homolog B	205205_at	16279; 26921; 28926

<i>RRAS2</i>	related RAS viral (r-ras) oncogene homolog 2 / TC21	208456_s_at; 212589_at; 212590_at	n.a.
<i>SDC4</i>	syndecan 4 (amphiglycan, ryudocan)	202071_at	17842; 27296; 28564
<i>SLC2A5</i>	GLUT5/solute carrier family 2, member 5	204429_s_at; 204430_s_at	17118; 24424; 26431
<i>SMAD7</i>	MAD, mothers against decapentaplegic homolog 7	204790_at	16418; 28817
<i>SOD2</i>	superoxide dismutase 2, mitochondrial	216841_s_at; 215223_s_at; 221477_s_at	28770
<i>STAT5A</i>	signal transducer and activator of transcription 5A	203010_at	29329; 30027
<i>STX4A</i>	syntaxin 4A (placental)	203530_s_at	n.a.
<i>TNFAIP3</i>	A20/tumor necrosis factor α -induced protein 3	202643_s_at; 202644_s_at	34761; 28987; 16398; 19267; 28986
<i>TNFRSF5</i>	CD40/tumor necrosis factor receptor superfamily, member 5	205153_s_at; 222292_at; 35150_at	27399; 16913
<i>TNFRSF6</i>	FAS/tumor necrosis factor receptor superfamily, member 6	204780_s_at; 204781_s_at; 215719_x_at; 216252_x_at	16699; 17626; 29375; 29356
<i>TNFSF2</i>	tumor necrosis factor /TNF superfamily, member 2	207113_s_at	28018; 17500; 24423
<i>TNIP</i>	A20-binding inhibitor of NF- κ B activation-2 (ABIN-2)	218335_x_at; 48531_at; 232160_s_at	n.a.
<i>TPMT</i>	thiopurine S-methyltransferase	203672_x_at	n.a.
<i>TRAF1</i>	TNF receptor-associated factor 1	205599_at; 235116_at	15921; 26356; 26357; 34621
<i>VIM</i>	Vimentin	201426_s_at	23950; 17082; 24417
<i>WTAP</i>	Wilms' tumor 1-associating protein	203137_at; 210285_x_at; 214759_at; 227621_at; 229630_s_at;	n.a.
<i>CX3CL1</i>	small inducible cytokine subfamily D (CX3CL1)	203687_at; 823_at	28708; 16395; 17806; 27065; 27053
<i>CXCL1</i>	GRO-1/chemokine (C-X-C motif) ligand 1 (melanoma growth stimulating activity, alpha)	204470_at	28834; 16751
<i>PTGS2</i>	prostaglandin-endoperoxide synthase 2/COX2	204748_at	28882
<i>TNFSF1</i>	lymphotoxin α /TNF superfamily, member 1/LTA/TNF β	206975_at	25205; 35085