

## Relapsed diffuse large B-cell lymphoma present different genomic profiles between early and late relapses

### Supplementary Material

**Supplemental table 1.** List of the 148 genes with differential CNVs distribution among early-relapsed and late-relapsed DLBCLs.

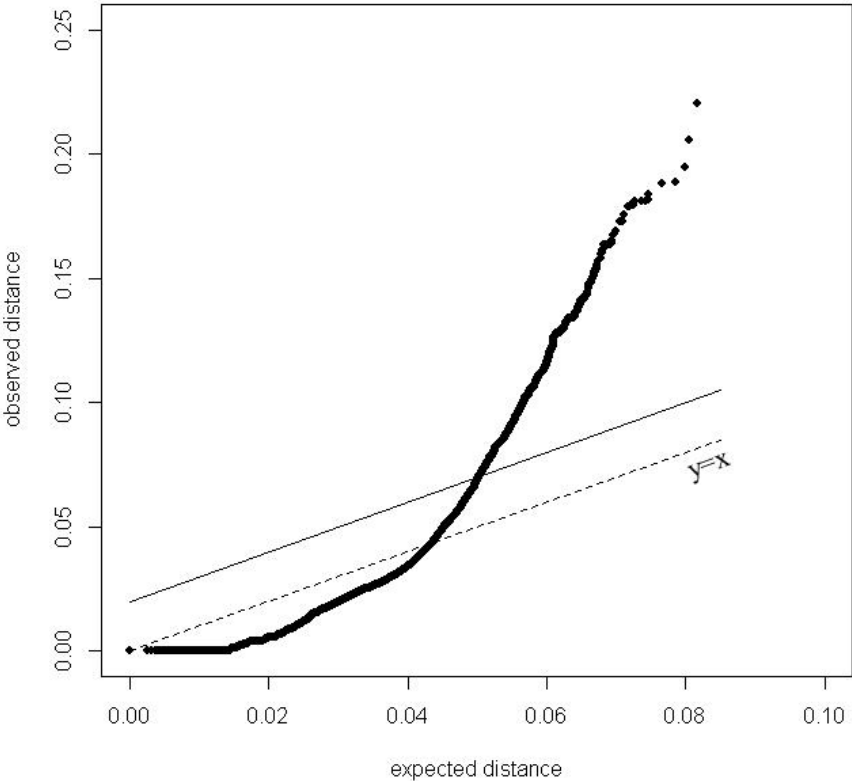
Chr. Band	Gene	Gene full name	Description/function
1p21	AMY2A	Amylase, Alpha 2A	Member of the alpha-amylase family
1p35	RP4-591L5.2	---	LncRNA
1p35	RP1-65J11.5	---	Antisense RNA
1q23	RP11-367J7.4	---	Pseudogene
1q32	RP11-168O16.1	---	Antisense RNA
1q42	RP4-580N22.2	---	LncRNA
1q42	MTND5P19	MT-ND5 Pseudogene 19	LncRNA
1q42	MTND4P10	MT-ND4 Pseudogene 10	LncRNA
1q42	MTND6P14	MT-ND6 Pseudogene 14	Pseudogene
1q42	RP5-827C21.2	---	Antisense RNA
1q43	RP11-193H5.2	---	Pseudogene
1q43	RP11-567G24.1	---	Pseudogene
1q43	RP11-527D7.1	---	LncRNA
1q43	RNU6-1139P	---	snRNA
1q44	HNRNPU-AS1	HNRNPU Antisense RNA 1	Antisense RNA
1q44	FABP7P1	Fatty acid binding protein 7, brain pseudogene 1	Pseudogene
1q44	RNU6-947P	RNA, U6 Small Nuclear 947, Pseudogene	Pseudogene
1q44	HNRPU	Heterogeneous Nuclear Ribonucleoprotein U	pre-mRNA processing
1q44	OR2T34	Olfactory receptor, family 2, subfam. T, mb 34	G-protein-coupled olfactory receptor
1q44	OR2AK2	Olfactory receptor, family 2, subfam. AK, mb 2	G-protein-coupled olfactory receptor
2p11	IGKV3D-7	Immunoglobulin kappa variable 3D-7	BCR assembly
2q23	AC079790.2	---	Antisense RNA
2q24	GALNT5	N-Acetylgalactosaminyltransferase 5	O-linked oligosaccharide biosynthesis
2q24	AC092625.1	---	LncRNA
2q24	AC019186.1	---	LncRNA
2q24	AC009227.2	---	Antisense RNA
2q31	EXTL2P1	Exostoses (multiple)-like 2 pseudogene 1	Pseudogene
2q31	NFE2L2	Nuclear factor (erythroid-derived 2)-like 2	Transcriptional regulator
2q32	RN7SL267P	RNA, 7SL, cytoplasmic 267	Pseudogene
2q33	RNU6-31P	RNA, U6 Small Nuclear 31	snRNA
2q33	AC007163.9	---	Pseudogene
2q33	MTND4P29	MT-ND4 Pseudogene 29	Pseudogene
2q33	MTND5P31	MT-ND5 Pseudogene 31	Pseudogene
2q33	SNORA1	Small nucleolar RNA, H/ACA box 1	Novel snoRNA
2q33	AC007879.6	---	LncRNA
2q34	MEAF6P1	MYST/Esa1-associated factor 6 pseudogene 1	Pseudogene
2q35	AC053503.11	---	Antisense RNA
2q35	AC010136.2	---	Antisense RNA
2q35	CXCR2P1	Chemokine Receptor 2 Pseudogene 1	Pseudogene
2q37	AC017104.2	---	LncRNA
2q37	PP14571	---	LncRNA
2q37	MTERF4	Mitochondrial Transcription Termination Factor 4	Regulator of mitochondrial gene expression
2q37	UBE2F-SCLY	UBE2F-SCLY Readthrough	MHC class I mediated antigen processing
2q37	C2orf82	Chromosome 2 Open Reading Frame 82	---
2q37	AC104667.3	---	Antisense RNA
3p22	AC011816.1	---	Pseudogene
3q13	RP11-10G15.4	---	Pseudogene
3q13	MTND5P16	MT-ND5 pseudogene 16	LncRNA
3q21	GS1-388B5.8	---	Pseudogene
3q21	RNA5SP58	RNA, 5S Ribosomal Pseudogene 57	Pseudogene
3q22	HSPA8P19	Heat Shock 70kDa Protein 8 Pseudogene 19	Pseudogene
3q22	PRR23B	Proline Rich 23B	---
3q23	ACTG1P1	Actin Gamma 1 Pseudogene 1	Pseudogene
3q23	RNU1-100P	RNA, U1 Small Nuclear 100	Pseudogene
3q23	RP11-68L1.2	---	Antisense RNA
3q23	CLSTN2-AS1	CLSTN2 antisense RNA 1	Antisense RNA
3q25	RP11-64D22.5	---	LncRNA
3q25	RP11-451G4.3	---	LncRNA

3q25	AADAC	Arylacetamide deacetylase	Microsomal arylacetamide deacetylase
3q25	PA2G4P4	Proliferation-Associated 2G4 Pseudogene 4	Pseudogene
3q25	RPL21P42	ribosomal protein L21 pseudogene 42	Pseudogene
3q25	PLCH1-AS1	PLCH1 antisense RNA 1	Antisense RNA
3q25	RP11-103G8.2	ERICH6 antisense RNA 1	Antisense RNA
3q25	IQCJ-SCHIP1-AS1	IQCJ-SCHIP1 Readthrough Antisense RNA 1	Antisense RNA
3q26	HMG1P8	high mobility group nucleosome binding domain 1 pseudogene 8	LncRNA
3q26	RP11-152C17.1	---	LncRNA
3q26	RP11-298O21.2	---	LncRNA
3q26	RP11-298O21.6	---	LncRNA
3q26	RP11-816B4.1	---	Pseudogene
3q26	AC007620.3	---	Antisense RNA
3q27	RNU6-1105P	RNA, U6 Small Nuclear 1105	Pseudogene
3q27	RP11-573D15.2	---	LncRNA
3q27	DVL3	Dishevelled, dsh homolog 3	Regulation of cell proliferation
3q27	EIF2B5-AS1	EIF2B5 antisense RNA 1	Antisense RNA
3q28	GCNT1P3	glucosaminyl transferase 1, core2 pseudogene 3	Pseudogene
3q29	CPN2	Carboxypeptidase N, Polypeptide 2	Carboxypeptidase
3q29	SENP5	SUMO1/sentrin specific peptidase 5	Post-translational modification of proteins
3q29	MUC20	Mucin 20, Cell Surface Associated	Glycoprotein of mucous barrier
3q29	HES1	Hairy enhancer of split 1	Transcription factor
3q29	RP11-135A1.2	---	Antisense RNA
4p13	RN7SL691P	RNA, 7SL, Cytoplasmic 691	Pseudogene
6p21	RP5-973N23.4	---	LncRNA
6p21	CSNK2B/CK2B	Casein kinase 2, beta subunit	Regulation of programmed cell death
6p21	BTNL2	Butyrophilin-Like 2	Negative regulation of T-cell proliferation
6p21	CCHCR1	Coiled-Coil Alpha-Helical Rod Protein 1	Regulation of keratinocyte proliferation
6p21	HIST1H1T	Histone Cluster 1, H1t	Epigenetic regulation of transcription
6p21	HLA-DRA	MHC complex, Class II, DR Alpha	Antigen presentation
6p22	RP3-369A17.2	---	Pseudogene
6p22	VN1R11P	Vomer nasal 1 Receptor 11 Pseudogene	Pseudogene
6p22	MCCD1P1	Mitochondrial coiled-coil domain 1 pseudogene 1	Pseudogene
6p22	HIST1H2BC	Histone Cluster 1, H2bc	Epigenetic regulation of transcription
6p22	HIS1H2AK	Histone Cluster 1, H2ak	Epigenetic regulation of transcription
6p22	KAAG1	Kidney Associated Antigen 1	---
6p24	RP11-69L16.4	---	Antisense RNA
6p25	SERPINB1	Serpin Peptidase Inhibitor, Class B, Mb1	Proteinase inhibition
6q12	RP11-74E24.2	Zinc finger CCCH-Type Domain-Containing-Like	Pseudogene
6q13	KHDC1	KH homology domain containing 1	Predicted membrane protein
6q21	RP11-249L21.4	---	Pseudogene
6q25	AIRN	Antisense of IGF2R Non-Protein Coding RNA	Regulation of transcription
6q25	RP3-403L10.3	---	Antisense RNA
7p22	GPR146	G Protein-Coupled Receptor 146	G protein coupled receptor
7p22	AC073343.13	---	Antisense RNA
7q11	ABHD11	Abhydrolase domain containing 11	---
7q11	STX1A	Syntaxin 1A	Docking of synaptic vesicles
7q21	AC079781.7	---	Pseudogene
11p15	ART5	ADP-Ribosyltransferase 5	ARG-specific ADP-ribosyltransferase
12p13	PRH1	Proline-Rich Protein HaeIII Subfamily 1	Inhibition of crystal calcium phosphates
12p13	C1R	Complement Component 1, R Subcomponent	Complement activation
12p13	PTMS	Parathyrosin	Inhibition of linkage of H1 to chromatin
12q12	RP11-313F23.3	---	LncRNA
12q12	CLUHP8	clustered mitochondria homolog pseudogene 8	Pseudogene
12q14	RAB11AP2	RAB11A, member RAS oncogene family pseudogene 2	Pseudogene
12q22	PGAM1P5	Phosphoglycerate Mutase 1 Pseudogene 5	Pseudogene
12q23	RNA5SP371	RNA, 5S Ribosomal Pseudogene 371	Pseudogene
12q24	RP11-968O1.5	---	Sense overlapping
12q24	RP11-428I12.1	---	Pseudogene
12q24	RP11-572C21.1	---	LncRNA
12q24	RP11-1028N23.3	---	LncRNA
12q24	RP11-121J20.1	---	LncRNA
12q24	DIABLO	Diablo, IAP-Binding Mitochondrial Protein	Apoptosis promotion
12q24	LRRC43	Leucine Rich Repeat Containing 43	---
12q24	RP11-64B16.4	---	Antisense RNA
13q13	EXOSC8	Exosome Component 8	Transcriptional regulation
14q11	AE000660.4	---	Pseudogene
14q11	OR4Q3	Olfactory receptor, family 4, subfam. Q, mb 3	G-protein-coupled olfactory receptor
14q11	TRAV-26-1	T Cell Receptor Alpha Variable 26-1	TCR assembly
14q11	TRAJ10	T Cell Receptor Alpha Joining 10	TCR assembly

14q11	<i>TRAJ13</i>	T Cell Receptor Alpha Joining 13	TCR assembly
14q12	<i>RP11-468E2.6</i>	---	---
14q32	<i>HOMER2P1</i>	Homer Scaffolding Protein 2 Pseudogene 1	Pseudogene
14q32	<i>IGHVIII-2-1</i>	Immunoglobulin Heavy Variable (III)-2-1	BCR assembly
14q32	<i>IGHVIII-16-1</i>	Immunoglobulin Heavy Variable (III)-16-1	BCR assembly
14q32	<i>DCAF11</i>	DDB1 And CUL4 Associated Factor 11	Assembly of the DDB1–CUL4A ubiquitin ligase
15q15	<i>CATSPER2</i>	Cation Channel, Sperm Associated 2	Sperm motility and male fertility
15q25	<i>RP11-182J1.14</i>	---	Pseudogene
16p13	<i>NARFL</i>	Nuclear prelamin A recognition factor-like	Modulation of hypoxia-inducible factor-1 $\alpha$ activity
16q22	<i>HAS3</i>	Hyaluronan Synthase 3	Synthesis of glycosaminoglycan hyaluronan
16q22	<i>CDH16</i>	Cadherin 16	Ca <sup>2+</sup> -dependent glycoprotein
16q22	<i>CLEC18B</i>	C-Type Lectin Domain Family 18, Member B	---
17p11	<i>LGALS9C</i>	Lectin, Galactoside-Binding, Soluble, 9C	Regulation of immune response
19p13	<i>LRG1</i>	Leucine-rich alpha-2-glycoprotein 1	Signal transduction, and cell adhesion
19p13	<i>ZNF414</i>	Zinc Finger Protein 414	Transcriptional regulation
19p13	<i>AC008686.1</i>	---	Uncharacterized protein
22q12	<i>RP5-1170K4.7</i>	---	Antisense RNA
22q13	<i>RN7SKP252</i>	---	misc RNA
22q13	<i>RPL35P8</i>	Ribosomal Protein L35 Pseudogene 8	Pseudogene
22q13	<i>OGFRP1</i>	opioid growth factor receptor pseudogene 1	LncRNA
22q13	<i>ADSL</i>	Adenylosuccinate lyase	<i>De novo</i> purine biosynthesis

# Supplemental figures

## Observed distance *versus* expected distance



**Supplemental Figure 1: observed distance versus expected distance using the permutation-based SAM method.** One hundred and forty-eight genes presented with an observed distance superior to the expected distance, with a false discovery rate < 0.05.