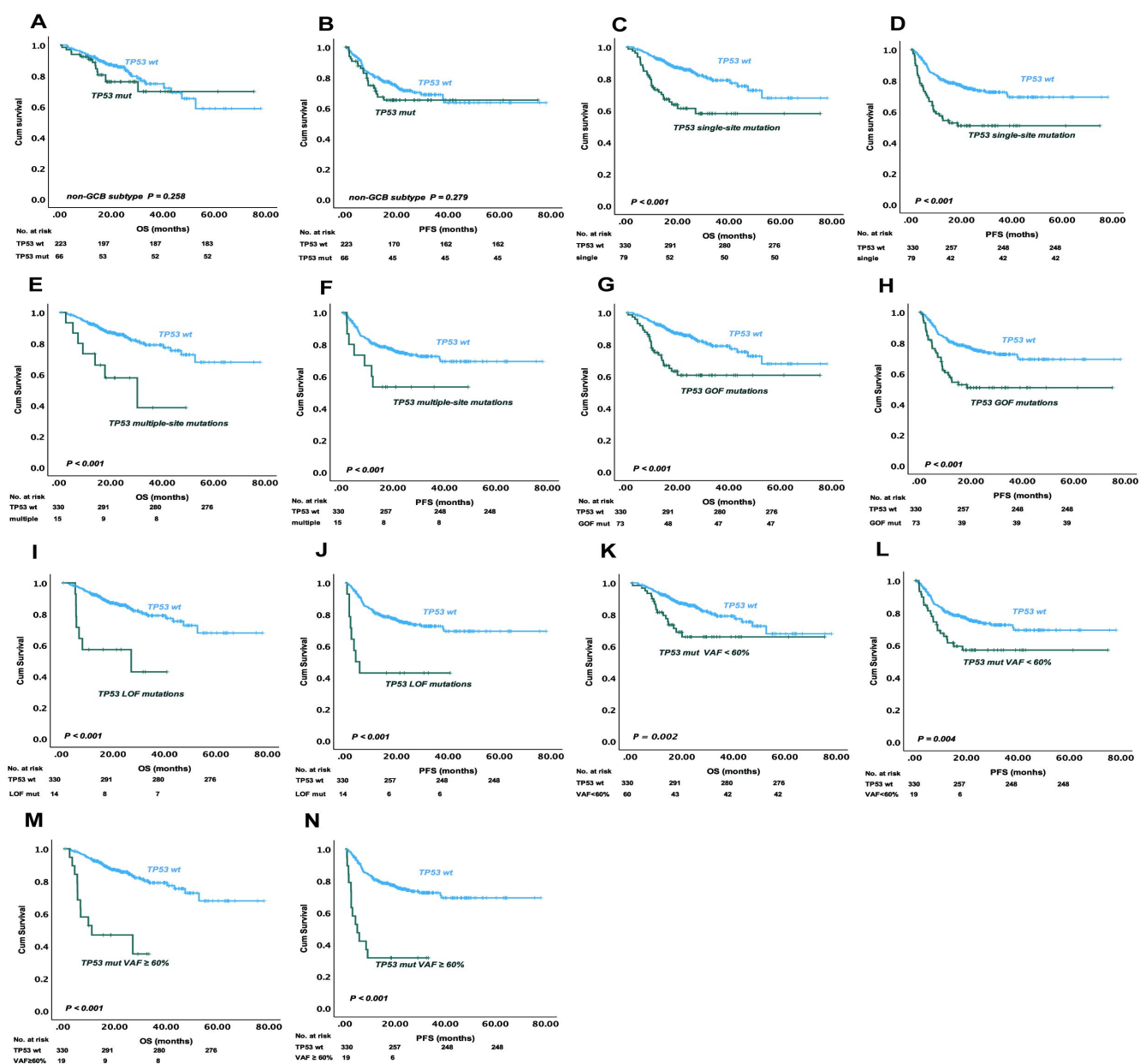


Supplemental Table S1 All genes tested in this study.

ARID1A	ARID1B	ASXL3	ATM	B2M	BCL2
BCL6	BCOR	BIRC3	BRAF	BTK	CARD11
CBL	CCND1	CCND3	CCR4	CCR7	CD28
CD58	CD79B	CDKN1B	CDKN2A	CDKN2B	CREBBP
CTNNB1	CXCR4	DDX3X	DNMT3A	DUSP2	EP300
EPHA7	EZH2	FAS	FYN	GATA3	GNA13
GNAI2	HNRNPA2B1	ID3	IDH1	IDH2	INO80
INPP5D	IRF4	ITPKB	JAK1	JAK3	JUNB
KIT	KLF2	KMT2D	MAP2K1	MAPK1	MEF2B
MFHAS1	MYC	MYD88	NOTCH1	NOTCH2	NRAS
PAX5	PIK3CD	PIM1	PLCG1	PLCG2	POT1
PRDM1	PRKCB	PTEN	PTPN1	RHOA	RRAGC
SETD2	SF3B1	SGK1	SH2D1A	SMARCA4	SOCS1
STAT3	STAT5B	STAT6	TCF3	TET2	TET3
TNFAIP3	TNFRSF14	TNFRSF1B	TP53	VAV1	XPO1
ACTB	ALK	ARID2	ATP6AP1	ATP6V1B2	BCL7A
BCORL1	BIRC6	BTG1	BTG2	CARMIL2	CD70
CD79A	CD83	CHD2	CIITA	CNOT3	CSF2RB
CSNK1A1	DDX41	DTX1	EGR1	EGR2	ERBB4
FAT1	FBXO11	FBXW7	FOXO1	GTF2I	HIST1H1B
HIST1H1C	HIST1H1D	HIST1H1E	HIST1H2AC	HIST1H2AM	HIST1H2BC
HIST1H2BK	HIST1H3B	HIST1H3D	HIST1H3H	HIST1H3J	HIST1H4E
HIST1H4J	HIST2H2BE	HVCN1	IGLL5	IKZF1	IL4R
IL7R	IRF2BP2	IRF8	KDM6A	KLHL14	KLHL6
KMT2C	KRAS	LYN	MAP3K14	MED12	MGA
MLH1	MPEG1	MS4A1	MSH2	MSH6	MTOR
NF1	NFKBIA	NFKBIE	NSD2	P2RY8	PCB1
PHF6	PIK3CA	PIK3R1	PMS2	POU2AF1	POU2F2
PPM1D	PRF1	PRPS1	PTPN6	PTPRD	RB1
ROBO1	RPS15	S1PR2	SAMHD1	SMARCB1	SMC1A
SPEN	SRCAP	TBL1XR1	TFAP4	TLR2	TMEM30A
TMSB4X	TRAF2	TRAF3	UBE2A	UNC13D	USP7
VMA21	XIAP	ZFP36L1	ZMYM3	ZNF217	

Supplemental Table S4 Comparison of clinical and pathological characteristics of TP53 mut DLBCL patients treated with R-CHOP+AZA and R-CHOP+BTKis versus R-CHOP.

Characteristics	R-CHOP (n=61)	R-CHOP+AZ A (n=12)	P (R-CHOP vs R-CHOP+AZA)	R-CHOP+BTKis (n=11)	P* (R-CHOP vs R-CHOP+BTKi)
gender			0.634		0.180
Male, n(%)	31(50.8)	7(58.3)		8(72.7)	
Female, n(%)	30(49.2)	5(41.7)		3(27.3)	
Age, Median(IQR)			0.868		1.0
≤60yrs, n(%)	27(44.3)	5(41.7)		5(45.5)	
>60yrs, n(%)	34(55.7)	7(58.3)		6(54.5)	
ECOG*			1.0		0.267
< 2, n(%)	43(70.5)	9(75.0)		10(90.9)	
≥2, n(%)	18(29.5)	3(25.0)		1(9.1)	
LDH*			0.021		0.095
Elevated, n(%)	40(65.6)	3(25.0)		4(36.4)	
normal, n(%)	21(34.4)	9(75.0)		7(63.6)	
Ann Arbor stage			0.634		0.433
I-II, n(%)	30(49.2)	5(41.7)		4(36.4)	
III-IV, n(%)	31(50.8)	7(58.3)		7(63.6)	
Extranodal involvement			1.0		1.0
≤1, n(%)	44(72.1)	9(75.0)		8(72.7)	
> 1, n(%)	17(27.9)	3(25.0)		3(27.3)	
IPI*			0.814		0.940
0-1, n(%)	22(36.1)	5(41.7)		5(45.5)	
2, n(%)	12(19.7)	3(25.0)		2(18.2)	
3, n(%)	12(19.7)	1(8.3)		2(18.2)	
4-5, n(%)	15(24.6)	3(25.0)		2(18.2)	
B symptom			0.166		0.716
Yes, n(%)	18(29.5)	1(8.3)		2(18.2)	
No, n(%)	43(70.5)	11(91.7)		9(81.8)	
Presence of large mass(≥7.5cm)			0.581		0.134
Yes, n(%)	6(9.8)	0(0)		3(27.3)	
No, n(%)	55(90.2)	12(100)		8(72.7)	
Bone marrow infiltration			0.192		0.677
Yes, n(%)	11(18.0)	0(0)		1(9.1)	
No, n(%)	50(82.0)	12(100)		10(90.9)	
MYC highly expression			1.0		0.734
Yes, n(%)	40(69.0)	9(75.0)		7(63.6)	
No, n(%)	18(31.0)	3(25.0)		4(36.4)	
Unknown	3	0		0	
BCL-2 highly expression			0.720		1.0
Yes, n(%)	45(75.0)	8(66.7)		8(72.7)	
No, n(%)	15(25.0)	4(33.3)		3(27.3)	
Unknown	1	0		0	
DEL*			0.795		0.985
Yes, n(%)	32(54.2)	7(58.3)		6(54.5)	
No, n(%)	27(45.8)	5(41.7)		5(45.5)	
Unknown	2	0		0	
Hans's classification			0.757		0.307
GCB, n(%)	24(39.3)	4(33.3)		2(18.2)	
non-GCB, n(%)	37(60.7)	8(66.7)		9(81.8)	
Ki67			1.0		0.734
highly expressed, n(%)	40(69.0)	8(66.7)		7(63.6)	
non-highly expressed, n(%)	18(31.0)	4(33.3)		4(36.4)	
Unknown, n(%)	3	0		0	



Supplemental Fig. S1 Kaplan-Meier analysis by TP53 mutations in DLBCL subgroup (A) Overall survival analysis of TP53 mutations in patients with non-GCB-DLBCL. (B) Progression-free survival analysis of TP53 mutations in patients with non-GCB-DLBCL. (C) Overall survival analysis of TP53 wt and TP53 single-site mutation in DLBCL. (D) Progression-free survival analysis of TP53 wt and TP53 single-site mutation in DLBCL. (E) Overall survival analysis of TP53 wt and TP53 multiple-site mutations in DLBCL. (F) Progression-free survival analysis of TP53 wt and TP53 multiple-site mutations in DLBCL. (G) Overall survival analysis of TP53 wt and TP53 GOF mutations in DLBCL. (H) Progression-free survival analysis of TP53 wt and TP53 GOF mutations in DLBCL. (I) Overall survival analysis of TP53 wt and TP53 LOF mutations in DLBCL. (J) Progression-free survival analysis of TP53 wt and TP53 LOF mutations in DLBCL. (K) Overall survival analysis of TP53 wt and TP53 mutations VAF < 60% in DLBCL. (L) Progression-free survival analysis of TP53 wt and TP53 mutations VAF < 60% in DLBCL. (M) Overall survival analysis of TP53 wt and TP53 mutations VAF ≥ 60% in DLBCL. (N) Progression-free survival analysis of TP53 wt and TP53 mutations VAF ≥ 60% in DLBCL.