

Table S1 Clinicopathological information of the 12 NSCLC participants

Sample ID	Overall survival (months)	Gender	Histology	Survival Condition	Smoking	Drinking	Number of metastatic tumors	Maximum diameter of metastatic tumor (cm)	The number of mutations in LC	The number of mutations in BM	The number of mutations both in LC and BM	Share Ratio
P01	76	Female	Adenocarcinomas	Alive	No	No	Single	<3	63	206	31	0.492063
P02	10	Female	Large cell carcinoma	Dead	No	No	Single	>3	148	154	44	0.297297
P03	26	Female	Adenocarcinomas	Dead	No	No	Single	>3	104	173	50	0.480769
P05	15	Female	Adenocarcinomas	Dead	No	No	Multiple	>3	325	372	5	0.015385
P06	64	Male	Adenocarcinomas	Dead	Yes	Yes	Multiple	<3	62	110	38	0.612903
P07	40	Female	Adenocarcinomas	Dead	Yes	No	Multiple	<3	153	97	20	0.130719
P08	16	Male	Adenocarcinomas	Dead	Yes	No	Single	<3	582	345	191	0.328179
P09	56	Male	Clear cell carcinoma and tubular adenocarcinoma	Alive	Yes	Yes	Single	<3	463	556	241	0.520518
P10	38	Female	Adeno-squamous carcinoma	Dead	No	No	Single	>3	167	306	28	0.167665
P11	50	Male	Adenocarcinomas	Dead	Yes	Yes	Single	<3	187	490	22	0.117647
P13	19	Male	Squamous cell carcinomas	Dead	Yes	No	Single	<3	278	377	148	0.532374
P15	39	Male	Adenocarcinomas	Alive	No	No	Multiple	<3	308	212	73	0.237013

LC, lung cancer; BM, brain metastasis; NSCLC, non-small cell lung cancer.

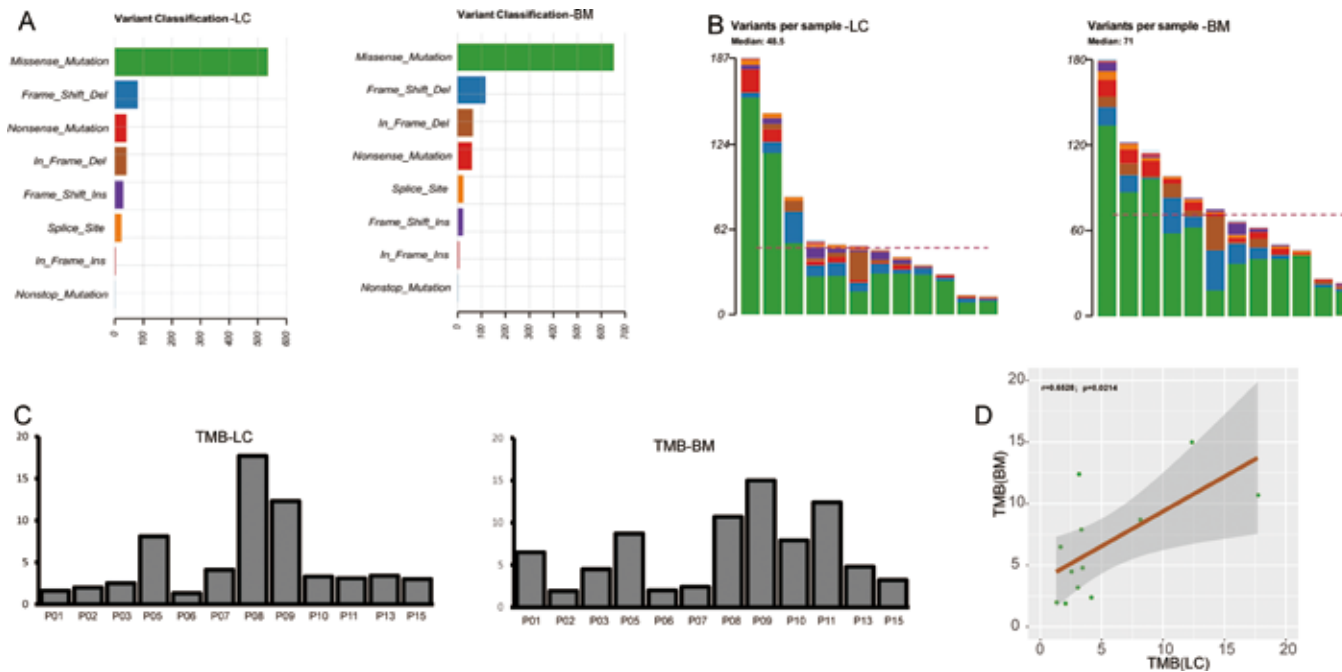


Figure S1 Landscape of somatic mutations of driver gene in LC and BM. (A) Number of variants, (B) classification of variant, (C) TMB of each patient and (D) the correlation between TMB of LC and BM. TMB, tumor mutation burden; LC, lung cancer; BM, brain metastasis.

Table S2 Enriched pathway of frequently mutated genes

Category	Term	Count	%	P value	Genes	List Total	Pop Hits	Pop Total	Fold Enrichment	Benjamini
KEGG_PATHWAY	hsa05220:Chronic myeloid leukemia	18	1.393189	1.19E-05	BCR, PIK3CB, MAP2K2, STAT5A, STAT5B, CBL, TP53, MECOM, CBLC, CDKN2A, HDAC2, KRAS, SOS1, RUNX1, CRK, CHUK, SHC4, PIK3R2	359	75	5085	3.399443	0.001992
KEGG_PATHWAY	hsa04012:ErbB signaling pathway	19	1.470588	2.51E-05	EGFR, NRG3, PIK3CB, MAP2K2, STAT5A, STAT5B, CBL, ELK1, CBLC, KRAS, SOS1, CAMK2B, MTOR, MAP2K7, CRK, NRG2, CAMK2A, PIK3R2, SHC4	359	87	5085	3.093363	0.001404
KEGG_PATHWAY	hsa05214:Glioma	13	1.006192	0.001237	EGFR, PIK3CB, MAP2K2, TP53, CDKN2A, KRAS, SOS1, CAMK2B, CALML6, MTOR, CAMK2A, PIK3R2, SHC4	359	63	5085	2.922801	0.050663

Table S3 Enrichment analysis of frequently mutated genes

Category	Term	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enrichment	Benjamini
SP_PIR_KEYWORDS	egf-like domain	46	3.560372	1.17E-11	NRG3, CRELD2, LDLR, ADAM21P1, ASTN1, MMRN1, ITGBL1, HMCN2, HMCN1, CD93, FAT1, IMPG2, ACAN, CNTNAP2, TPO, FBN3, TNN, FBN2, NRG2, MUC12, CUBN, NRXN2, NRXN3, ATRN, NOTCH2NL, CELSR3, CELSR2, SSPO, MUC4, SLIT3, NOTCH2, MUC3A, CLEC18A, THBD, LRP1, SNED1, FBLN2, OTOG, RELN, ADAM22, ADAM19, LRP2, MEGF6, ADAM12, SELE, LRP5	1227	230	19235	3.135289	2.21E-09
SP_PIR_KEYWORDS	tyrosine-specific phosphatase	11	0.851393	1.38E-05	PTPRC, PTPRD, PTPN3, PTPRZ1, PTPRH, PTPRN2, PTPN4, PTPN21, PTPRO, CDC25A, PTPN12	1227	31	19235	5.56261	9.78E-04
SP_PIR_KEYWORDS	actin-binding	34	2.631579	4.49E-05	HIP1R, MYO7B, SSFA2, MYBPC3, SSH2, WASF2, PXX, VILL, VCL, ESPN, MACF1, DMD, WIPF3, INF2, DBNL, PHACTR2, SPTBN5, MYH1, SPTBN4, MYH7, ACTN2, EVL, MYH6, VASP, MYO18B, SYNE2, TNS1, MIB2, FHOD3, MYH13, WASL, MYH14, MYH7B, PARVA	1227	247	19235	2.157891	0.002833
SP_PIR_KEYWORDS	sh3 domain	30	2.321981	6.99E-05	MYO7B, BCAR1, NCF1C, CACNB2, ASAP1, ITSN2, CACNB4, ARHGAP4, MIA2, MACF1, PACSIN3, PACSIN2, PSTPIP1, DLG5, RASA1, PIK3R2, CASKIN1, SH3PXD2B, DBNL, SASH1, NOXO1, EFS, SH3BP4, ARHGAP33, FCHSD2, SH3RF3, CRK, TJP2, SASH3, SRGAP2	1227	210	19235	2.239492	0.003611
SP_PIR_KEYWORDS	atp-binding	119	9.210526	1.15E-04	POTEKP, STK35, TTK, ITPKA, KIF13A, NLRC5, ATP2B2, DDX17, OPLAH, DHX35, MAP2K7, MAP2K5, EGFR, MAGI3, CARS, BCR, MYH1, MAGI1, PIK3CB, MYH7, MYH6, HNRNPU, MYO18B, NME3, NAV2, SMARCA5, BMP2K, FLAD1, MYO18A, MYH7B, NEK6, NEK7, DNAH11, FGFR2, DNAH17, TDRD9, CHEK1, CHEK2, RIOK1, ABCA4, ABCA3, TTBK1, DDX60L, MKI67, MAP2K2, MAP2K3, ATP11A, BRIP1, SMG1, ABCB1, ATP11C, DDX4, RPS6KL1, ATP13A4, EPHA6, EPHA8, ATP2A1, MYH13, HSPD1, MTOR, MYH14, FPGT, GUK1, UBE2E1, PC, KIF25, CDK17, HELQ, MYO7B, ATP10A, HLCS, MOV10L1, HELZ, PIP5K1A, DDR2, MCM8, ATAD3B, CHUK, ABCE1, SGK1, LIMK1, MINK1, CFTR, TOP1MT, CBWD3, PANK3, CBWD1, CDK11A, RRM1, ERN2, TNNI3K, CDK11B, SMARCA1, DNAH9, MKNK2, BRSK2, AKAP9, BRSK1, DNAH7, BMS1, STK32C, MAP3K3, SPEG, DGKG, ABCD2, HSPA7, CAMK2B, PRKAA1, CAMK2A, AATK, ABCA12, ACSL5, FLT1, FLT4, NLK, UBE2Q2, RPS6KA5, ROCK1P1, ABCC3, SLFN13, ABCC5	1227	1326	19235	1.406861	0.005455
SP_PIR_KEYWORDS	extracellular matrix	32	2.47678	1.53E-04	ADAMTSL1, ADAMTS14, CALR, LAMB4, COL9A3, HMCN1, COL27A1, COL6A3, ACAN, FBN3, FBN2, COL11A1, SPP1, COL18A1, WNT10A, HAPLN3, ZP3, COL13A1, LGALS1, MEPE, COL5A3, COL5A1, COL4A6, COL4A5, LAMA2, ADAMTS6, LAMA5, FBLN2, COL1A2, RELN, COL1A1, CHL1	1227	241	19235	2.08152	0.00666
SP_PIR_KEYWORDS	metal-binding	236	18.26625	1.67E-04	ALAD, PDLIM5, RNF213, RNF212, ZNF251, ATP2B2, PLOD2, PRIM2, BIRC8, MAP2K7, FTL, MAP2K5, ZNF43, UBR4, ZNF503, MECOM, ADAMTS6, UHRF1, NME3, NEK6, NEK7, FUS, ZNF519, TRIM64C, ZNF611, CYP2B6, ZNF76, ASAP1, CHEK2, CALR, ADAP1, TCF20, DAGLA, RPS29, DMD, CASZ1, COL18A1, DNMT3A, ZNF620, KLF10, KLF11, KLF17, ATP11A, ATP11C, DAGLB, ZNF525, ATP13A4, PXDNL, ZBTB42, CBLC, NR1I2, ATP2A1, ZFH3, RERE, DPP3, ATP10A, ZMAT2, ZNF530, ARSI, HELZ, ZEB2, ZNF347, ZNF346, CANX, GLI3, STAC3, ASH2L, ZNF491, ZNF735, NOS2, AGAP2, NR2F1, KCNMA1, TP53, ZNF141, HERC2, ZSWIM2, MMP14, VPS8, ZDHHC14, ZDHHC17, ZDHHC11, PPEF2, ASH1L, ADAM19, ADAM12, KSR1, NSD1, REV3L, CDRT1, THAP7, LIMS1, ZNF469, FHL3, MKNK2, POLA1, CBLL1, ALPP, LOC440434, CYP2A13, CYP27B1, GNPTAB, BCL11B, TYW1, DGKG, DTNB, GATAD2B, PRKAA1, PPP3CA, RFPL3, RASA3, MLLT6, ZNF267, NLK, ZNF770, PDZRN3, SOD2, RPS6KA5, LRP1, PHF14, JMJD6, ROCK1P1, COG8, SH3RF3, ZBTB4, PHF21A, NLN, DPYD, ADH1C, ZXDB, RPS27L, APOBEC3H, ENPEP, ZIC2, APOBEC3D, TRIM46, TRIM48, AGAP9, TRIM43, TRIM44, ZNF578, RBM10, SAR1B, RNF145, CARS, ZNF813, NPEPPS, SUZ12, KDM2B, MIB2, RELN, ZNF436, ZNF845, TSHZ2, ZC3H4, ADAM21P1, ZNF846, PRUNE2, PEG10, FGD6, ADSSL1, LPO, EHMT1, LPP, ZMYM5, NR4A2, SMG1, NR4A3, CACNA2D2, FOXP1, MAN2C1, TET3, CADPS2, POLD1, ANTXR2, HIVEP1, ADAM22, FPGT, PC, ZNF85, RAI1, KDM6A, NPEPL1, CTCF, ZKSCAN3, ZZEF1, MAZ, ZNF727, TPO, RANBP2, MAN2B1, IMPDH1, PHC2, NFX1, ZCCHC4, ZNF280C, NRXN2, LIMK1, NRXN3, COQ7, MYT1L, ZNF718, ZMIZ2, ZMIZ1, UBC, CYP2A6, ERN2, TNNI3K, ZFPM2, CHFR, CPSF3, ZNF99, ADAMTS14, ABLIM3, PRSS1, BRSK2, ADH5, BRSK1, PPM1B, STK32C, NPTX1, PRDM15, MAP3K3, TGM3, XAF1, ING1, DUS3L, ADARB1, ADARB2, CBL, CREB5, ZNF705G, CADPS, RNF112, ADI1, RNF44, SULF2, SUMF2	1227	2972	19235	1.244832	0.006765

Table S3 (continued)

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Category	Term	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enrichment	Benjamini
SP_PIR_ KEYWORDS	repressor	48	3.71517	2.79E-04	ZNF85, SBNO2, ETV7, BCLAF1, CBX4, ZEB2, CTCF, TCERG1, BCL11B, ANP32A, GATAD2B, LRRFIP1, NFX1, NFATC1, NKRF, ATF7IP, DNMT3A, ERF, SATB2, RCOR2, JARID2, KLF10, KLF11, MECP2, MED12, KLF17, ZNF141, TLE4, ZNF503, BANP, MED13, MED13L, FOXF1, FOXN3, SUZ12, CHMP1A, KDM2B, MSX1, HDAC2, PHF21A, CELF2, ZFPM2, PBX1, CUX1, NSD1, NCOR1, HDAC7, RERE	1227	435	19235	1.729815	0.009885
SP_PIR_ KEYWORDS	isopeptide bond	38	2.941176	3.13E-04	HIST1H2AC, TNRC18, GRIK2, RAD23A, CBX4, ELK1, SYNCRIP, CHEK1, ZEB2, GON4L, CTCF, PIP5K1A, HIST2H2AB, CUL2, HSF1, RANBP2, HNRNPC, ACIN1, KPNB1, POTEE, EGFR, SATB2, TP53, MYH7, MYH6, CCDC138, HIST2H3D, PSMA1, UHRF1, MSX1, EVPL, TRAF3IP3, ASH1L, UBC, TFAP2A, CUL4B, UBXN7, CPSF3	1227	319	19235	1.867414	0.009845
SP_PIR_ KEYWORDS	Endocytosis	17	1.315789	3.53E-04	DBNL, SYNRG, STON1, CUBN, CALY, LDLR, HIP1R, GTF2A1L, EPS15L1, ITSN2, CLEC10A, SH3BP4, LRP1, THBD, PACSIN3, PACSIN2, LRP2, LRP5	1227	96	19235	2.776037	0.00999
SP_PIR_ KEYWORDS	transcription regulation	166	12.8483	4.94E-04	STAT5A, STAT5B, CNOT3, HOXD12, CBX4, CNOT2, ZXDB, ZNF251, CTNNB1, CDKN2A, CGGBP1, SND1, ZNF578, SSSX9, ZNF43, SATB2, RCOR2, MED12, MECP2, ZNF813, ZNF503, ARID1A, MED13, GRHL1, MECOM, FOXN3, SUZ12, UHRF1, KDM2B, MSX1, TFAP2A, TFAP2D, ZNF436, ZNF845, ZNF519, CRT2, MEAF6, TSHZ2, ZNF611, HOXA13, ZNF76, SETD1A, ELK1, KEAP1, TRRAP, ZNF846, TCF21, TCF20, AHRR, TCERG1, CASZ1, TFD3, RUNX1, RUNX2, TCF3, SSX1, TAF2, NKRF, ZNF620, KLF10, KLF11, NR4A2, KLF17, EN1, TEAD2, GTF2A1L, NR4A3, MED13L, ZNF525, FOXF1, ATF6, NOTCH2, NR1I2, HDAC2, SMARCC2, HIVEP1, NCOR1, ZFH3, HDAC7, RERE, ZNF85, TAF1C, ZNF530, ZEB2, CTCF, ZNF347, ZKSCAN3, GLI3, PAX1, FUBP1, ARHGAP22, MCM8, MAZ, HSF1, ASH2L, ZNF727, ZNF491, ANP32A, ZNF735, LRRFIP1, NFX1, NR2F1, ATF7IP, SNAPC5, SSBP3, CCNK, ZNF280C, ARID5B, SNAPC3, SOX12, TP53, ZNF141, TLE4, BANP, MYT1L, ZNF718, CHMP1A, BRWD1, ZMIZ2, ZMIZ1, ASH1L, KHSRP, BRDT, FOXC2, ERN2, ZFPM2, WASL, CUX1, NSD1, ZNF99, FOXD4L5, THAP7, SBNO2, BCLAF1, ETV7, ZNF469, STON1, NPAS1, PRDM15, NPAS2, NPAS3, RB1CC1, BCL11B, POU2F2, POU2F1, GATAD2B, BCL3, PER3, FOXD4, NFATC1, ZNF267, SIM2, ERF, JARID2, NLK, ZNF770, AFF3, CREB5, WWTR1, POU5F1B, ZNF705G, JMJD6, ATXN7, FOXE1, ZBTB4, PHF21A, PBX1	1227	2026	19235	1.284447	0.013298
SP_PIR_ KEYWORDS	triple helix	9	0.696594	5.61E-04	COL13A1, DMD, COL6A3, COL1A2, COL1A1, COL11A1, COL5A1, COL4A6, COL4A5	1227	31	19235	4.551226	0.014407
SP_PIR_ KEYWORDS	nucleus	321	24.8452	6.04E-04	STAT5A, PPP2R5C, STAT5B, HOXD12, INTS1, SYNCRIP, INTS2, WTAP, ZNF251, CTNNB1, DDX17, INTS5, INTS4, RPP30, MAP2K7, ZNF43, MAGI3, RCOR2, PTBP1, MED12, MECP2, UBR4, ZNF503, NAV3, MED13, MECOM, ERGIC2, MYO18B, UHRF1, MSX1, MAD2L1, NAV2, CMIP, PDE4DIP, NEK6, FUS, TP53TG3, CRT2, ZNF519, ZNF611, HOXA13, RAD23A, ZNF76, CHEK1, CHEK2, XAB2, ADAP1, TCF21, TCF20, AHRR, FRG2, FRG1, CASZ1, AHNAK2, PABPC1, TCF3, NKRF, DNMT3A, NOC4L, MKI67, ZNF620, KLF10, KLF11, KLF17, EN1, DUSP21, ZNF525, ZBTB42, NOTCH2, CBLC, NR1I2, SYNE2, DCP1B, ETS2, NCOR1, ZFH3, RERE, TAF1C, UTP18, GAR1, ZNF530, TCOF1, ZMAT2, HELZ, ZEB2, ZNF347, ZNF346, GLI3, HIST2H2AB, DIP2A, ASH2L, HSF1, ANP32A, ZNF491, SPANXD, QKI, ZNF735, SPANXC, BRD4, TWISTNB, AGAP2, FANCA, NR2F1, ATF7IP, SNAPC5, RBM42, HIST1H1B, SNAPC3, TP53, ZNF141, TLE4, CHMP1A, BRWD1, DACT1, CDK11A, ASH1L, BRDT, NOL11, FOXC2, CDK11B, NSD1, ARL4C, FOXD4L5, REV3L, HIST1H2AC, ZNF469, ETV7, POLA1, BMS1, LOC440434, SPEG, BCL11B, RB1CC1, GATAD2B, BCL3, PPP3CA, PER3, SNRNP70, TBC1D1, MLLT6, FOXD4, SIM2, NMD3, ZNF267, RRP12, PDS5A, JARID2, NUCKS1, NLK, ZNF770, AFF3, WWTR1, RPS6KA5, LRP1, JMJD6, ZBTB4, FOXE1, PHF21A, PBX1, USP48, TJP2, RALY, STK35, CBX4, CNOT3, ZXDB, UBQLN4, CNOT2, ZIC2, CDKN2A, CGGBP1, SND1, ZNF578, SRRM1, PMS2, ACIN1, ITC1, RBM10, PABPN1, SATB2, ZNF813, ARID1A, NPEPPS, GRHL1, TACC1, FOXN3, HNRNPU, SUZ12, PNPLA7, PSMA1, KDM2B, BMP2K, SMARCA5, TFAP2A, CELF2, TFAP2D, ZNF436, ZNF845, MEAF6, TSHZ2, SETD1A, ELK1, KEAP1, TRRAP, HEXDC, DAZAP1, ZNF846, PEG10, TCERG1, NIPBL, POLE3, TFD3, HNRNPC, RUNX1, RUNX2, TAF2, EHMT1, C17ORF49, LPP, ZMYM5, RFX7, NR4A2, SMG1, BRIP1, SYCE1, GTF2A1L, HEATR1, TEAD2, NR4A3, MED13L, DPPA3, RBMX, AIM2, FOXF1, HIST2H3D, ATF6, HDAC2, POLD1, SMARCC2, HIVEP1, HNRNPH1, FPGT, HDAC7, ZNF85, RAI1, KDM6A, CTCF, TIMM50, DEK, EPS15L1, ZKSCAN3, PTMA, PAX1, FUBP1, ARHGAP22, MCM8, MAZ, PLRG1, ZNF727, HNRNPCL1, LRRFIP1, RANBP2, KPNB1, CHUK, AHNAK, PHC2, NFX1, NOL6, SSBP4, SGK1, SSBP3, ZNF280C, ARID5B, SOX12, TP53TG3B, BANP, MYT1L, ZNF718, XPC, ZMIZ2, EIF5AL1, ZMIZ1, TPPP, CPSF7, KHSRP, UBC, TNNT3, ZFPM2, WASL, CPSF3, CHFR, CUX1, ZNF99, SMARCA1, BCLAF1, STON1, IRX5, GON4L, HCFC2, WBP11, BRSK1, NPAS1, NPAS2, PRDM15, NPAS3, POM121, POU2F2, MSI1, POU2F1, CALML6, XAF1, MYOF, ING1, GEMIN5, NFATC1, ERF, DGCR6L, ADARB2, NFRKB, SCOC, CREB5, POU5F1B, ZNF705G, ADI1, SH3BP4, ATXN7	1227	4283	19235	1.17491	0.014827

Table S3 (continued)

Table S3 (continued)

Category	Term	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enrichment	Benjamini
SP_PIR_ KEYWORDS	Transcription	168	13.0031	7.29E-04	STAT5A, STAT5B, CNOT3, HOXD12, CBX4, CNOT2, ZXDB, ZNF251, CTNNB1, CDKN2A, CGGBP1, SND1, PRIM2, ZNF578, SSX9, ZNF43, SATB2, RCOR2, MED12, MECP2, ZNF813, ZNF503, ARID1A, MED13, GRHL1, MECOM, FOXN3, SUZ12, UHRF1, KDM2B, MSX1, TFAP2A, TFAP2D, ZNF436, ZNF845, ZNF519, CRTC2, MEAF6, TSHZ2, ZNF611, HOXA13, ZNF76, SETD1A, ELK1, KEAP1, TRRAP, XAB2, ZNF846, TCF21, TCF20, AHRR, TCERG1, CASZ1, TFDP3, RUNX1, RUNX2, TCF3, SSX1, TAF2, NKRF, ZNF620, KLF10, KLF11, NR4A2, KLF17, TEAD2, GTF2A1L, NR4A3, MED13L, ZNF525, FOXF1, ATF6, NOTCH2, NR1H2, HDAC2, SMARCC2, HIVEP1, NCOR1, ZFH3, HDAC7, RERE, ZNF85, TAF1C, ZNF530, ZEB2, CTCF, ZNF347, ZKSCAN3, GLI3, PAX1, FUBP1, ARHGAP22, MCM8, MAZ, HSF1, ASH2L, ZNF727, ZNF491, ANP32A, ZNF735, LRRFIP1, TWISTNB, NFX1, NR2F1, ATF7IP, SNAPC5, SSBP3, CCNK, ZNF280C, ARID5B, SNAPC3, SOX12, TP53, ZNF141, TLE4, BANP, MYT1L, ZNF718, CHMP1A, BRWD1, ZMIZ2, ZMIZ1, ASH1L, KHSRP, BRDT, FOXC2, ERN2, ZFPM2, WASL, CUX1, NSD1, ZNF99, FOXD4L5, THAP7, SBNO2, BCLAF1, ETV7, ZNF469, STON1, NPAS1, PRDM15, NPAS2, NPAS3, RB1CC1, BCL11B, POU2F2, POU2F1, GATAD2B, BCL3, PER3, FOXD4, NFATC1, ZNF267, SIM2, ERF, JARID2, NLK, ZNF770, AFF3, CREB5, WWTR1, POU5F1B, ZNF705G, JMJD6, ATXN7, FOXE1, ZBTB4, PHF21A, PBX1	1227	2071	19235	1.271677	0.016461
SP_PIR_ KEYWORDS	trimer	8	0.619195	9.44E-04	COL13A1, COL6A3, COL1A2, COL1A1, COL11A1, COL5A1, COL4A6, COL4A5	1227	26	19235	4.823522	0.019712
SP_PIR_ KEYWORDS	phosphoric monoester hydrolase	13	1.006192	0.001275	PTPRC, PTPRD, PTPN3, PTPRZ1, PTPRH, PTPRN2, PTPN4, PTPN21, PPP3CA, ALPP, PTPRO, CDC25A, PTPN12	1227	69	19235	2.953533	0.025592
SP_PIR_ KEYWORDS	calcium channel	12	0.928793	0.001479	RYR1, CACNA1G, CACNA1H, RYR2, CACNB2, CACNA1E, CACNB4, CACNA1C, CACNA2D2, ITPR1, CACNA1A, ITPR2	1227	61	19235	3.083891	0.028623
SP_PIR_ KEYWORDS	hydroxylation	13	1.006192	0.001647	COL18A1, COL9A3, THBD, COL6A3, COL1A2, CELSR3, CELSR2, COL1A1, COL5A3, COL11A1, COL5A1, COL4A6, COL4A5	1227	71	19235	2.870335	0.03078
SP_PIR_ KEYWORDS	collagen	15	1.160991	0.002715	COL18A1, COL23A1, COL13A1, COL5A3, COL5A1, COL4A6, COL4A5, COL9A3, PLOD2, COL27A1, COL6A3, COL1A2, COL1A1, EDA, COL11A1	1227	95	19235	2.475228	0.048681

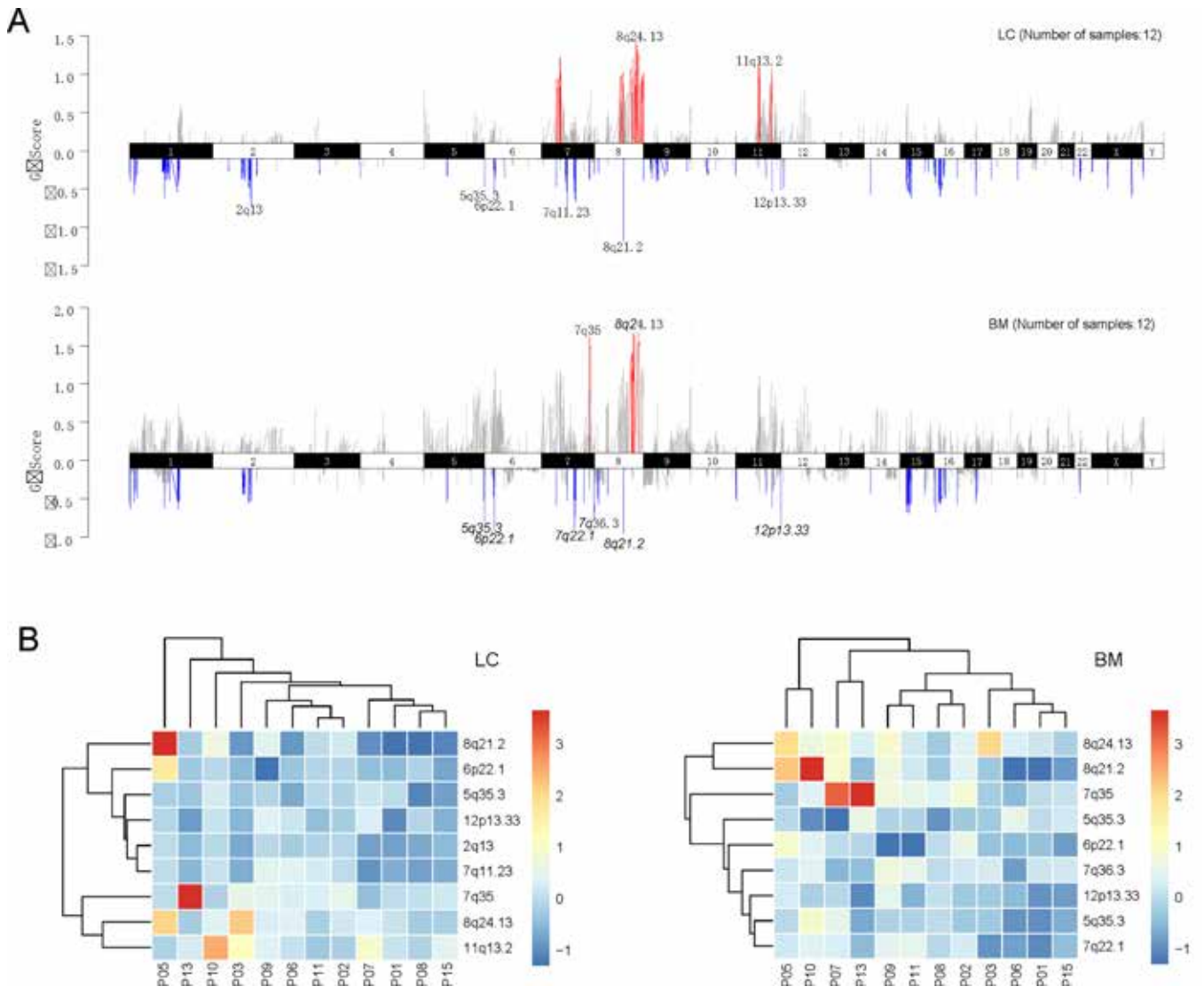
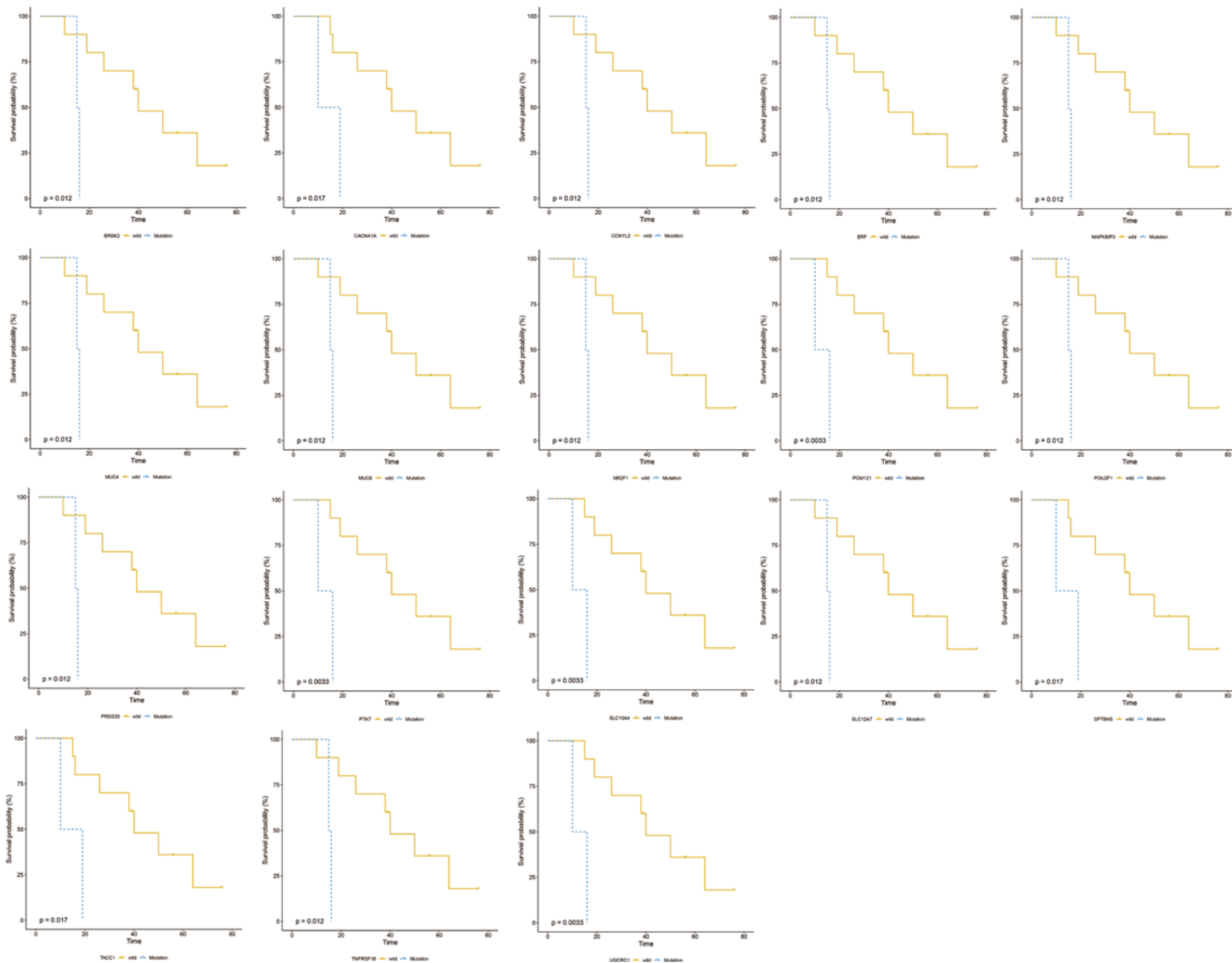
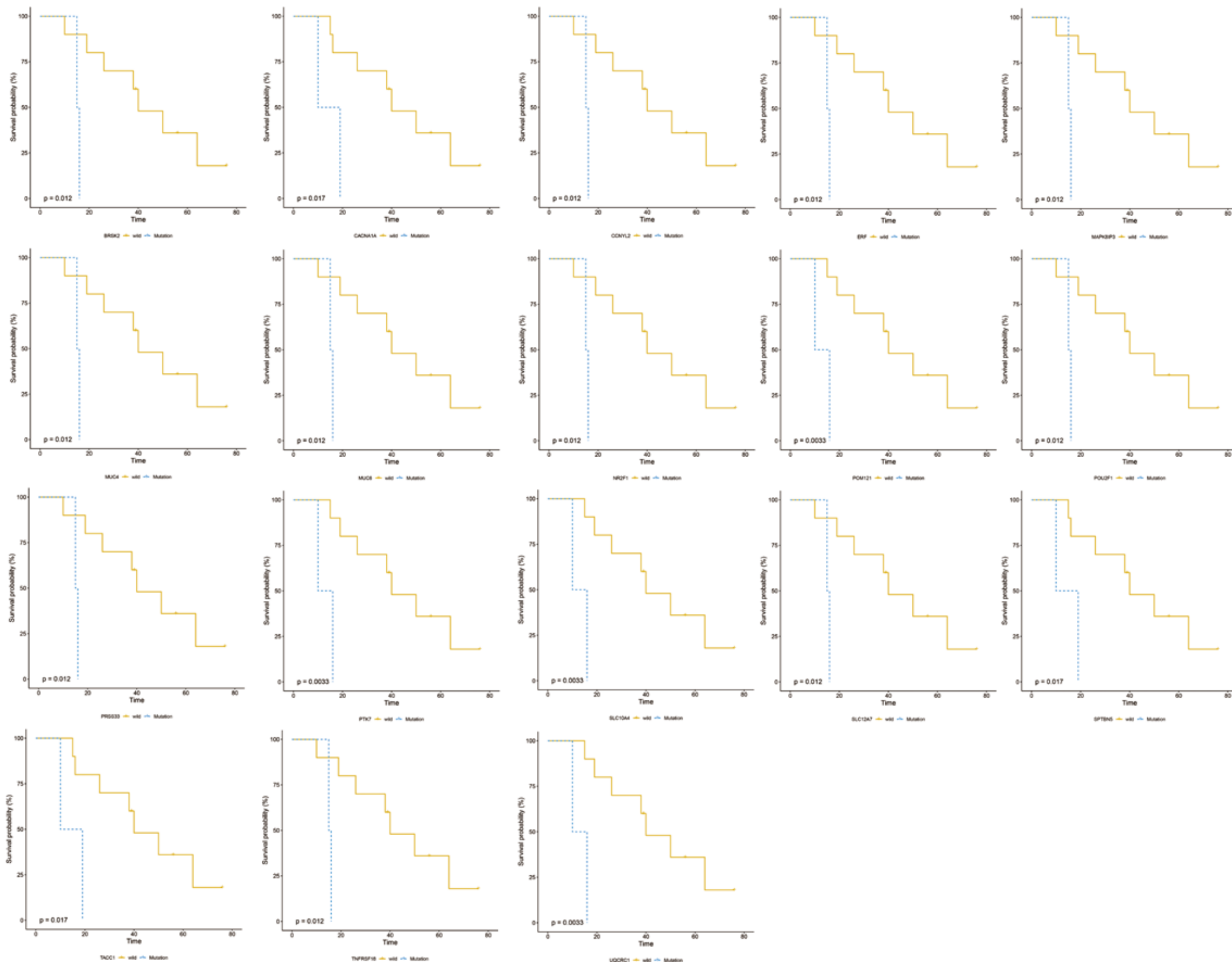
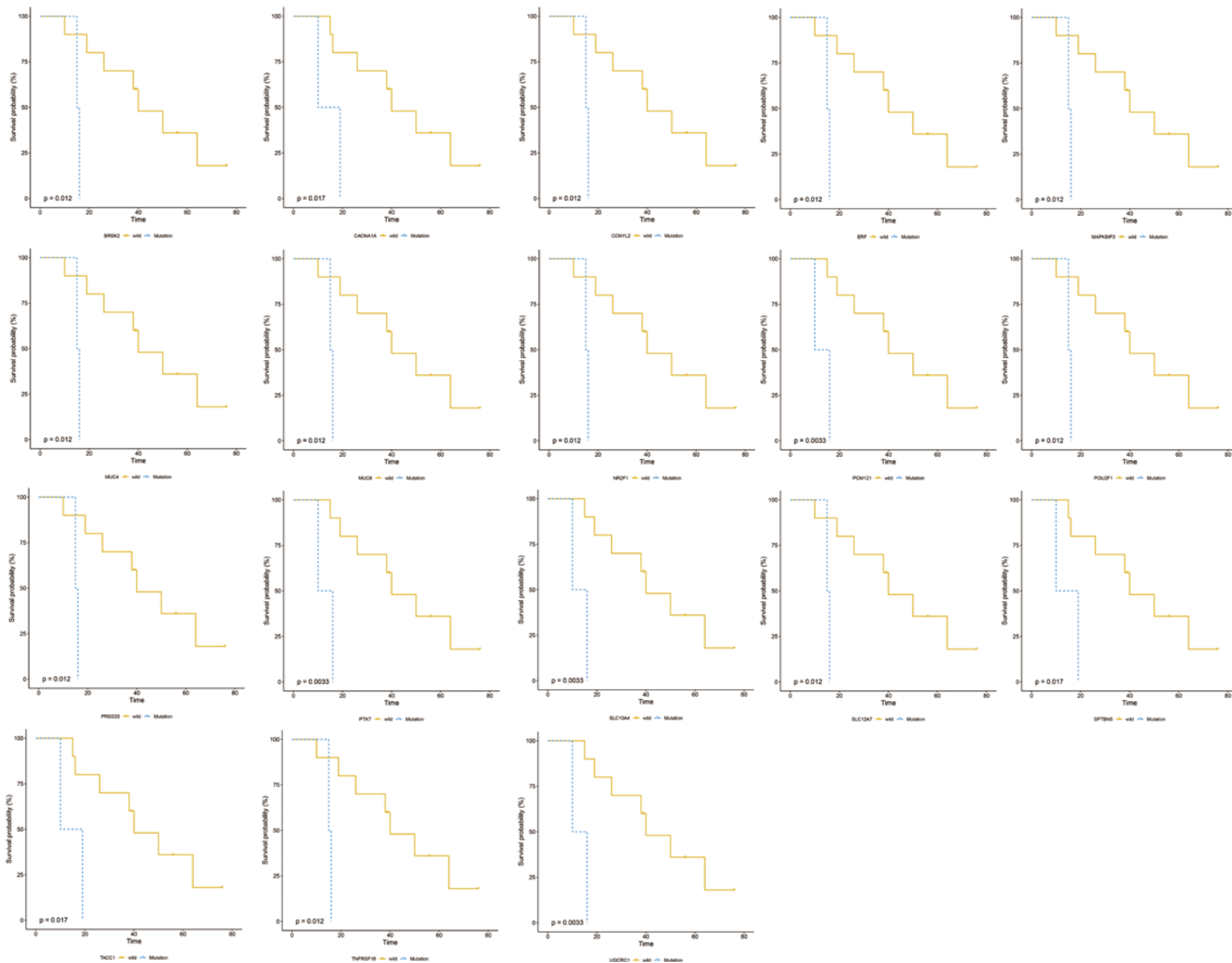
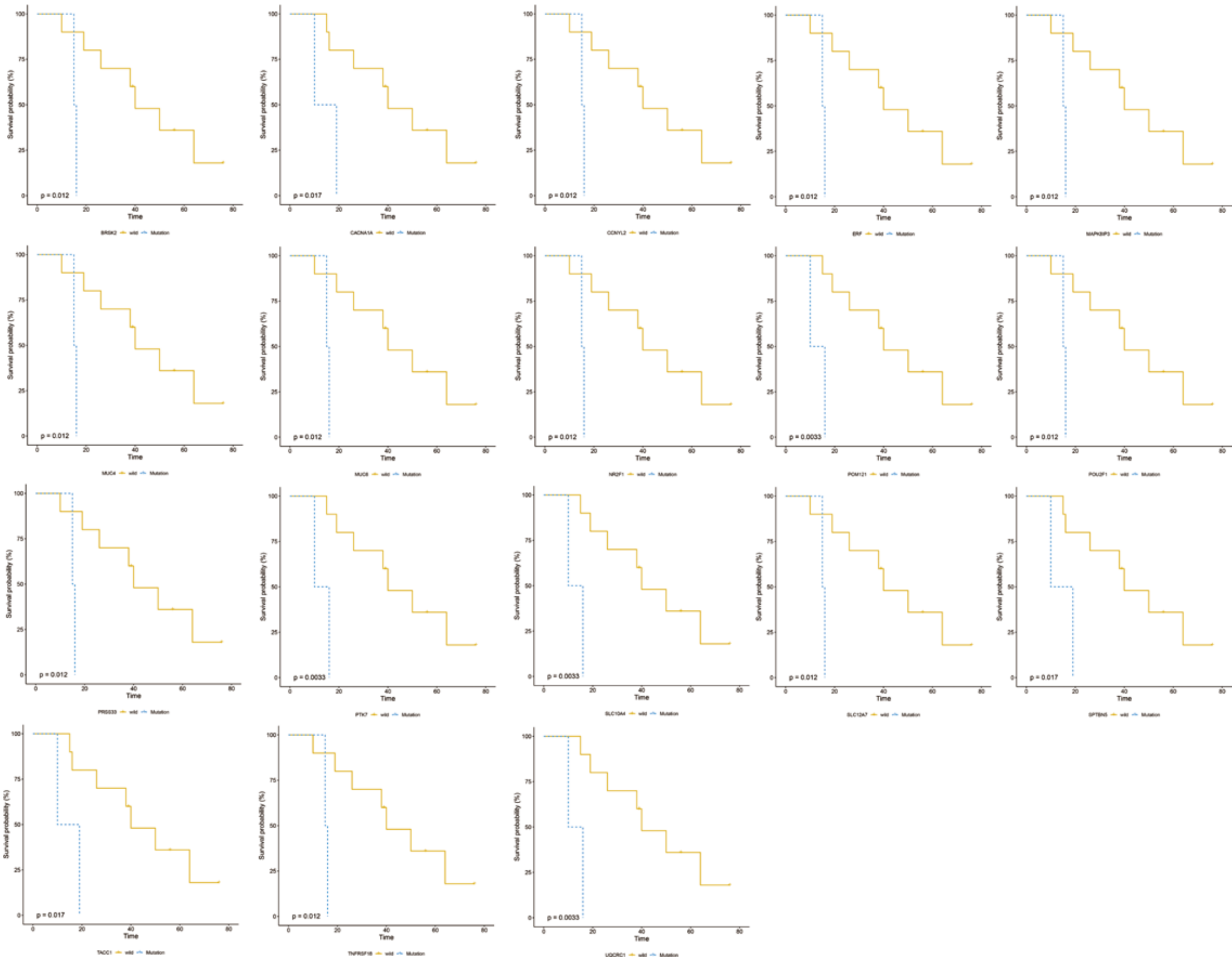


Figure S2 CNVs in lung tumor and brain tumor samples. CNVs, copy number variants.









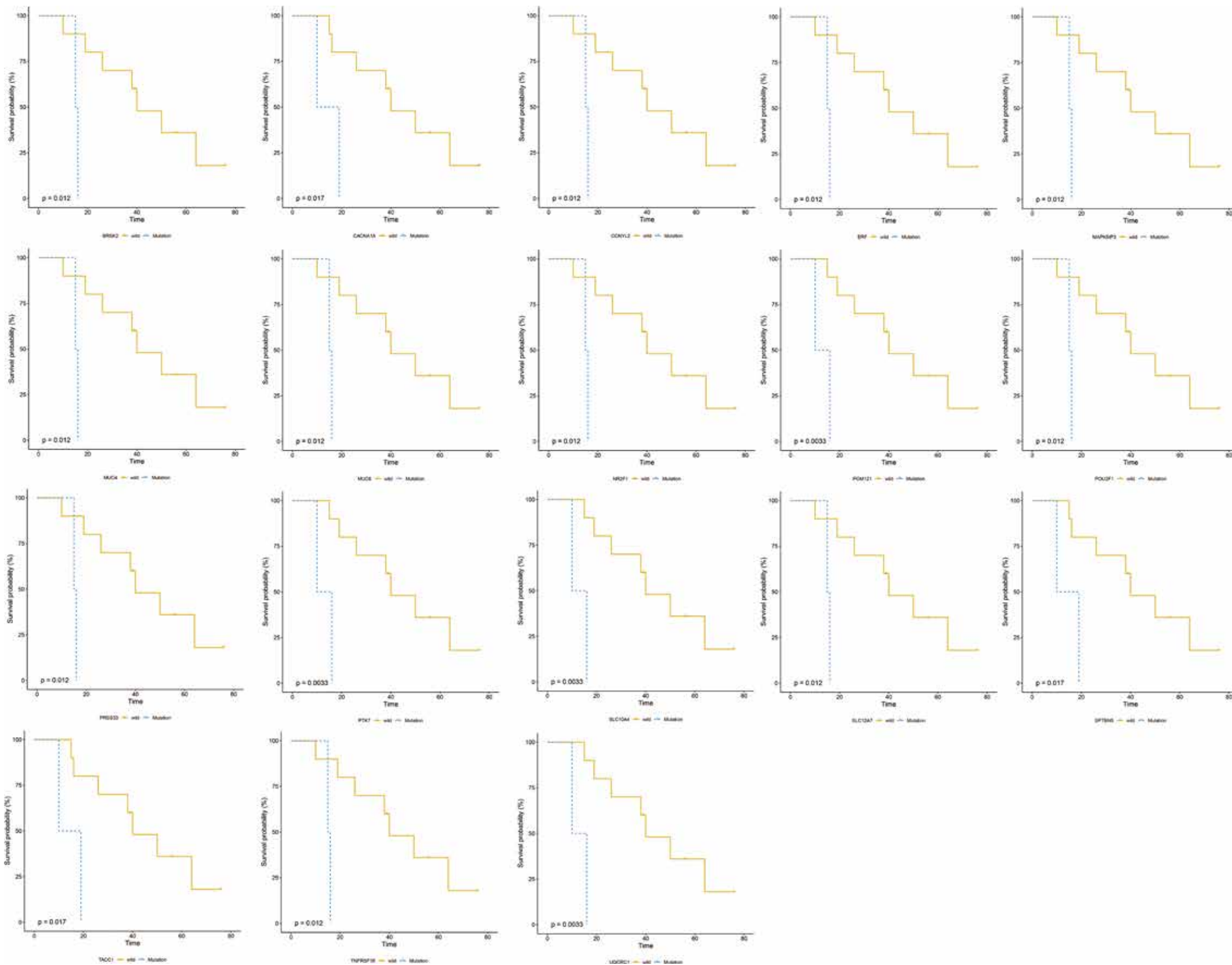


Figure S3 Survival analysis between mutations in LC and OS times. LC, lung cancer; OS, overall survival.

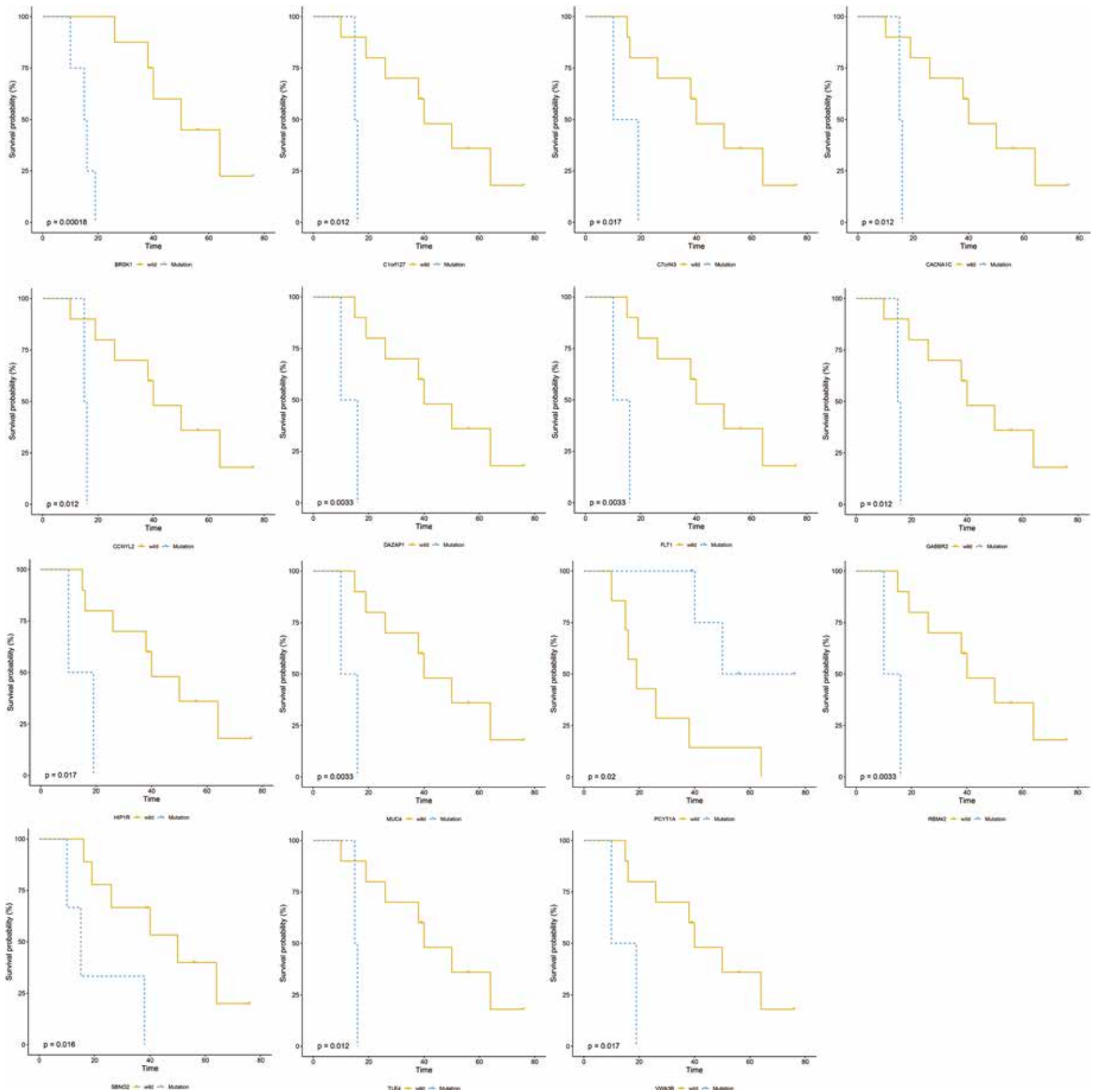


Figure S4 Survival analysis between mutations in BM and times. OS, overall survival; BM, brain metastasis.