

Supplemental Table 1:**Full list of genes with detectable CNVs in OncoScan™ FFPE Assay***Each gene extended by 10k upstream and downstream and then to 100kb if it is less than 100kb***The Somatic mutation panel contains 74 mutations over 9 genes (BRAF, EGFR, IDH1, IDH2, KRAS, NRAS, PIK3CA, PTEN, TP53).**

GeneName	Chr	Start	End	Size	Number of probes	Resolution [kB]	kbs	kbs/probe
PRKCZ	chr1	1971908	2126834	154926	30	100	155	5.16
TNFRSF14	chr1	2441535	2541535	100000	19	105	100	5.26
PRDM16	chr1	2975741	3365185	389444	76	100	389	5.12
TP73	chr1	3559128	3662765	103637	40	50	104	2.59
DFFB	chr1	3737918	3837918	100000	40	50	100	2.50
RPL22	chr1	6202379	6302379	100000	20	100	100	5.00
PIK3CD	chr1	9700480	9800480	100000	41	50	100	2.44
MTOR	chr1	11156587	11332608	176021	80	50	176	2.20
MTHFR	chr1	11805973	11905973	100000	40	50	100	2.50
CASP9	chr1	15784854	15884854	100000	20	100	100	5.00
EPHA2	chr1	16416706	16516706	100000	21	100	100	4.76
SDHB	chr1	17312944	17412944	100000	22	100	100	4.55
PADI4	chr1	17612592	17712592	100000	39	50	100	2.56
PADI6	chr1	17663467	17763467	100000	40	50	100	2.50
RCC2	chr1	17699154	17799154	100000	40	50	100	2.50
ARHGEF10L	chr1	17856329	18034370	178041	70	50	178	2.54
PAX7	chr1	18947499	19072632	125133	25	100	125	5.01
NBL1	chr1	19927335	20027335	100000	20	100	100	5.00
EPHB2	chr1	23027330	23251823	224493	46	100	224	4.88
MDS2	chr1	23910439	24010439	100000	20	100	100	5.00
RUNX3	chr1	25191385	25291385	100000	20	100	100	5.00
ARID1A	chr1	27012521	27118601	106080	22	100	106	4.82
SFN	chr1	27140289	27240289	100000	22	100	100	4.55
FGR	chr1	27895775	27995775	100000	39	50	100	2.56
SESN2	chr1	28547482	28647482	100000	20	100	100	5.00
ALK	chr1	29405639	30154477	748838	277	50*	749	2.70
BAI2	chr1	32161182	32261182	100000	19	105	100	5.26
LCK	chr1	32684302	32784302	100000	24	100	100	4.17
HDAC1	chr1	32728465	32828465	100000	21	100	100	4.76
SFPQ	chr1	35603971	35703971	100000	19	105	100	5.26
THRAP3	chr1	36680016	36780957	100941	20	100	101	5.05
CSF3R	chr1	36890279	36990279	100000	20	100	100	5.00
RRAGC	chr1	39265177	39365177	100000	40	50	100	2.50
MYCL1	chr1	40314391	40414391	100000	40	50	100	2.50
MPL	chr1	43761804	43861804	100000	41	50	100	2.44
PLK3	chr1	45218851	45318851	100000	21	100	100	4.76
MUTYH	chr1	45750271	45850271	100000	38	55	100	2.63

PIK3R3	chr1	46495811	46608380	112569	46	50	113	2.45
TAL1	chr1	47638702	47738702	100000	20	100	100	5.00
STIL	chr1	47697814	47797814	100000	21	100	100	4.76
CDKN2C	chr1	51387336	51487336	100000	21	100	100	4.76
EPS15	chr1	51803863	51903863	100000	21	100	100	4.76
JUN	chr1	59198123	59298123	100000	102	50	100	0.98
JAK1	chr1	65288905	65442187	153282	31	100	153	4.94
GADD45A	chr1	68102440	68202440	100000	20	100	100	5.00
DIRAS3	chr1	68464052	68564052	100000	19	105	100	5.26
BCL10	chr1	85687023	85787023	100000	20	100	100	5.00
GSTM1	chr1	110183392	110283392	100000	40	50	100	2.50
RBM15	chr1	110835623	110935623	100000	21	100	100	4.76
TRIM33	chr1	114925398	115063781	138383	29	100	138	4.77
NRAS	chr1	115203299	115303299	100000	43	50	100	2.33
PHGDH	chr1	120220633	120320633	100000	43	50	100	2.33
NOTCH2	chr1	120444175	120622317	178142	28	125	178	6.36
PDE4DIP	chr1	144841423	145005033	163610	29	110	164	5.64
NOTCH2NL	chr1	145197511	145297511	100000	18	110	100	5.56
BCL9	chr1	147003181	147108015	104834	28	100	105	3.74
GOLPH3L	chr1	150594186	150694186	100000	40	50	100	2.50
ARNT	chr1	150765712	150865712	100000	20	100	100	5.00
MLLT11	chr1	150986561	151086561	100000	23	100	100	4.35
TPM3	chr1	154091752	154191752	100000	20	100	100	5.00
MUC1	chr1	155110502	155210502	100000	19	105	100	5.26
RAB25	chr1	155985630	156085630	100000	72	50	100	1.39
PRCC	chr1	156703941	156803941	100000	31	100	100	3.23
NTRK1	chr1	156768591	156868591	100000	43	50	100	2.33
INSRR	chr1	156769688	156869688	100000	43	100	100	2.33
FCRL4	chr1	157505704	157605704	100000	20	100	100	5.00
SDHC	chr1	161259350	161359350	100000	20	100	100	5.00
FCGR2B	chr1	161590674	161690674	100000	21	100	100	4.76
PBX1	chr1	164518596	164831060	312464	65	100	312	4.81
PRRX1	chr1	170620926	170720926	100000	20	100	100	5.00
TNN	chr1	175026993	175127202	100209	20	100	100	5.01
RFWD2	chr1	175903966	176186370	282404	56	100	282	5.04
ABL2	chr1	179040342	179140342	100000	20	100	100	5.00
RNASEL	chr1	182500581	182600581	100000	20	100	100	5.00
LAMC2	chr1	183132789	183232789	100000	19	105	100	5.26
TPR	chr1	186262621	186362621	100000	20	100	100	5.00
PTGS2	chr1	186595251	186695251	100000	40	50	100	2.50
CDC73	chr1	193081087	193233942	152855	32	100	153	4.78
BTG2	chr1	203226696	203326696	100000	18	110	100	5.56
MDM4	chr1	204456377	204556377	100000	42	50	100	2.38
ELK4	chr1	205539535	205639535	100000	21	100	100	4.76

SLC45A3	chr1	205588305	205688305	100000	21	100	100	4.76
ATF3	chr1	212716397	212816397	100000	20	100	100	5.00
TGFB2	chr1	218508675	218627961	119286	47	50	119	2.54
CDC42BPA	chr1	227167565	227515826	348261	69	100	348	5.05
OBSCN	chr1	228385860	228558951	173091	34	100	173	5.09
RHOA	chr1	228770393	228892416	122023	47	50	122	2.60
KIAA1804	chr1	233442203	233542203	100000	20	100	100	5.00
FH	chr1	241621970	241721970	100000	21	100	100	4.76
AKT3	chr1	243641534	244016584	375050	152	50	375	2.47
NLRP3	chr1	247545931	247645931	100000	26	100	100	3.85
DIP2C	chr10	310129	745608	435479	87	100	435	5.01
KLF6	chr10	3772830	3872830	100000	20	100	100	5.00
GATA3	chr10	8056915	8156915	100000	20	100	100	5.00
MLLT10	chr10	21784607	21884607	100000	20	100	100	5.00
PIP4K2A	chr10	22813765	23013503	199738	80	50	200	2.50
ABI1	chr10	27025524	27160016	134492	26	100	134	5.17
MAP3K8	chr10	30686855	30786855	100000	40	50	100	2.50
RET	chr10	43547734	43647734	100000	40	50	100	2.50
MAPK8	chr10	49576434	49676434	100000	20	100	100	5.00
ERCC6	chr10	50654490	50757147	102657	20	100	103	5.13
MSMB	chr10	51506035	51606035	100000	54	50	100	1.85
NCOA4	chr10	51527920	51627920	100000	46	100	100	2.17
CCDC6	chr10	61538505	61676414	137909	27	100	138	5.11
CDK1	chr10	62492457	62592457	100000	20	100	100	5.00
SIRT1	chr10	69611286	69711286	100000	20	100	100	5.00
TET1	chr10	70310116	70464239	154123	30	100	154	5.14
PRF1	chr10	72309817	72409817	100000	20	100	100	5.00
KAT6B	chr10	76576170	76802380	226210	45	100	226	5.03
NRG3	chr10	83625069	84756935	1131866	226	100	1132	5.01
BMPR1A	chr10	88506395	88694945	188550	75	50	189	2.51
ATAD1	chr10	89495395	89595395	100000	42	50	100	2.38
CFL1P1	chr10	89541719	89641719	100000	60	50	100	1.67
PTEN	chr10	89613194	89738532	125338	125	50	125	1.00
ACTA2	chr10	90653705	90753705	100000	22	100	100	4.55
FAS	chr10	90712914	90812914	100000	19	105	100	5.26
TLX1	chr10	102844303	102944303	100000	20	100	100	5.00
NFKB2	chr10	104108254	104208254	100000	20	100	100	5.00
SUFU	chr10	104253718	104389220	135502	26	105	136	5.21
CYP17A1	chr10	104543788	104643788	100000	40	50	100	2.50
SHOC2	chr10	112669300	112783425	114125	22	100	114	5.19
FGFR2	chr10	123227843	123363481	135638	53	50	136	2.56
DMBT1	chr10	124310180	124413252	103072	19	105	103	5.42
CTBP2	chr10	126646435	126746435	100000	39	50	100	2.56
HRAS	chr11	483895	583895	100000	38	55	100	2.63

PIDD	chr11	752214	852214	100000	19	105	100	5.26
INS	chr11	2131723	2231723	100000	19	105	100	5.26
CDKN1C	chr11	2855721	2955721	100000	17	120	100	5.88
CARS	chr11	3000416	3100416	100000	20	100	100	5.00
NUP98	chr11	3686239	3829022	142783	28	100	143	5.10
ILK	chr11	6578531	6678531	100000	40	50	100	2.50
LMO1	chr11	8215631	8315631	100000	20	100	100	5.00
STK33	chr11	8403417	8625503	222086	44	100	222	5.05
FANCF	chr11	22595732	22695732	100000	20	100	100	5.00
WT1	chr11	32380842	32480842	100000	40	50	100	2.50
LMO2	chr11	33835746	33935746	100000	19	105	100	5.26
EXT2	chr11	44107098	44276980	169882	33	100	170	5.15
CD82	chr11	44564227	44664227	100000	19	105	100	5.26
DDB2	chr11	47198630	47298630	100000	20	100	100	5.00
CLP1	chr11	57377276	57477276	100000	20	100	100	5.00
SDHAF2	chr11	61155917	61255917	100000	20	100	100	5.00
RCOR2	chr11	63631504	63731504	100000	20	100	100	5.00
MACROD1	chr11	63756029	63943585	187556	35	105	188	5.36
SF1	chr11	64488653	64588653	100000	22	100	100	4.55
MEN1	chr11	64524510	64624510	100000	21	100	100	4.76
MALAT1	chr11	65219585	65319585	100000	20	100	100	5.00
GAL3ST3	chr11	65762443	65862443	100000	19	105	100	5.26
GSTP1	chr11	67302594	67402594	100000	40	50	100	2.50
CCND1	chr11	69412557	69512557	100000	134	50	100	0.75
FGF4	chr11	69538983	69638983	100000	19	105	100	5.26
CTTN	chr11	70213650	70313650	100000	20	100	100	5.00
NUMA1	chr11	71702741	71802741	100000	19	105	100	5.26
C11orf30	chr11	76146068	76272589	126521	50	50	127	2.53
LRRC32	chr11	76324805	76424805	100000	20	100	100	5.00
PAK1	chr11	77023059	77195108	172049	34	100	172	5.06
GAB2	chr11	77916335	78062926	146591	29	100	147	5.05
PICALM	chr11	85658213	85790139	131926	26	100	132	5.07
TYR	chr11	88901039	89038927	137888	55	50	138	2.51
SESN3	chr11	94885189	94985189	100000	20	100	100	5.00
MAML2	chr11	95701439	96086344	384905	76	100	385	5.06
PGR	chr11	100890354	101009794	119440	47	50	119	2.54
BIRC3	chr11	102149157	102249157	100000	20	100	100	5.00
ATM	chr11	108083558	108249826	166268	66	50	166	2.52
DDX10	chr11	108525815	108821648	295833	59	100	296	5.01
POU2AF1	chr11	111186568	111286568	100000	20	100	100	5.00
SDHD	chr11	111912044	112012044	100000	20	100	100	5.00
ZBTB16	chr11	113920430	114131397	210967	42	100	211	5.02
PAFAH1B2	chr11	116978380	117078380	100000	22	100	100	4.55
PCSK7	chr11	117039299	117139299	100000	18	110	100	5.56

MLL	chr11	118297204	118407539	110335	44	50	110	2.51
DDX6	chr11	118590222	118690222	100000	20	100	100	5.00
H2AFX	chr11	118915380	119015380	100000	19	105	100	5.26
CBL	chr11	119066989	119188859	121870	49	50	122	2.49
ARHGEF12	chr11	120197617	120370645	173028	34	100	173	5.09
SORL1	chr11	121312911	121514471	201560	40	100	202	5.04
CHEK1	chr11	125461036	125561036	100000	40	50	100	2.50
ETS1	chr11	128310430	128410430	100000	40	50	100	2.50
FLI1	chr11	128553810	128693162	139352	56	50	139	2.49
TP53AIP1	chr11	128758960	128858960	100000	39	50	100	2.56
KDM5A	chr12	379222	508620	129398	26	100	129	4.98
WNK1	chr12	852088	1030618	178530	80	50	179	2.23
ERC1	chr12	1090403	1615099	524696	112	100	525	4.68
CCND2	chr12	4348711	4448711	100000	23	100	100	4.35
ZNF384	chr12	6737091	6837091	100000	23	100	100	4.35
PTPN6	chr12	7013109	7113109	100000	22	100	100	4.55
ETV6	chr12	11792787	12058325	265538	114	50	266	2.33
CDKN1B	chr12	12822803	12922803	100000	23	100	100	4.35
PIK3C2G	chr12	18404473	18811352	406879	85	100	407	4.79
GYS2	chr12	21673451	21773451	100000	21	100	100	4.76
KRAS	chr12	25331016	25431016	100000	42	50	100	2.38
VDR	chr12	48217066	48317066	100000	42	50	100	2.38
WNT1	chr12	49324315	49424315	100000	20	100	100	5.00
ATF1	chr12	51136365	51236365	100000	22	100	100	4.55
CSAD	chr12	53504861	53604861	100000	20	100	100	5.00
HOXC13	chr12	54286451	54386451	100000	33	100	100	3.03
HOXC11	chr12	54318556	54418556	100000	19	105	100	5.26
CDK2	chr12	56313561	56413561	100000	20	100	100	5.00
ERBB3	chr12	56435549	56535549	100000	41	50	100	2.44
NACA	chr12	57062638	57162638	100000	22	100	100	4.55
GLI1	chr12	57809982	57909982	100000	29	100	100	3.45
DDIT3	chr12	57862335	57962335	100000	27	100	100	3.70
PIP4K2C	chr12	57941076	58041076	100000	44	50	100	2.27
AGAP2	chr12	58075052	58175052	100000	119	50	100	0.84
CDK4	chr12	58093869	58193869	100000	111	50	100	0.90
HMGA2	chr12	66208239	66319307	111068	46	50	111	2.41
MDM2	chr12	69170591	69270591	100000	107	50	100	0.93
CCT2	chr12	69937282	70037282	100000	44	50	100	2.27
NAV3	chr12	78215068	78616790	401722	86	100	402	4.67
BTG1	chr12	92486863	92586863	100000	20	100	100	5.00
APAF1	chr12	99029077	99139211	110134	26	100	110	4.24
IGF1	chr12	102779644	102882429	102785	42	50	103	2.45
CRY1	chr12	107375142	107497598	122456	29	100	122	4.22
SH2B3	chr12	111816589	111916589	100000	20	100	100	5.00

PTPN11	chr12	112846535	112957717	111182	46	50	111	2.42
PRKAB1	chr12	120062594	120162594	100000	22	100	100	4.55
HNF1A	chr12	121378431	121478431	100000	21	100	100	4.76
BCL7A	chr12	122429905	122529905	100000	22	100	100	4.55
ZMYM2	chr13	20522809	20675968	153159	31	100	153	4.94
CDX2	chr13	28489854	28589854	100000	27	100	100	3.70
FLT3	chr13	28567410	28684729	117319	52	50	117	2.26
FLT1	chr13	28864482	29079265	214783	85	50	215	2.53
BRCA2	chr13	32879616	32983809	104193	104	50	104	1.00
POSTN	chr13	38104849	38204849	100000	41	50	100	2.44
LHFP	chr13	39907028	40187356	280328	57	100	280	4.92
FOXO1	chr13	41119800	41250734	130934	54	50	131	2.42
SIAH3	chr13	46340130	46440130	100000	20	100	100	5.00
CPB2	chr13	46603266	46703266	100000	25	100	100	4.00
LCP1	chr13	46678258	46778258	100000	24	100	100	4.17
HTR2A	chr13	47389340	47489340	100000	20	100	100	5.00
RB1	chr13	48867882	49066026	198144	203	50	198	0.98
ERCC5	chr13	103463270	103563270	100000	21	100	100	4.76
IRS2	chr13	110372548	110472548	100000	41	50	100	2.44
CCNB1IP1	chr14	20738530	20838530	100000	20	100	100	5.00
TRA@	chr14	22080057	23031075	951018	200	100	951	4.76
TRD@	chr14	22863553	22963553	100000	19	105	100	5.26
AKAP6	chr14	32788478	33312268	523790	105	100	524	4.99
NKX2-1	chr14	36937253	37037253	100000	40	50	100	2.50
PNN	chr14	39598404	39698404	100000	19	105	100	5.26
NIN	chr14	51176480	51307839	131359	26	100	131	5.05
BMP4	chr14	54368862	54468862	100000	40	50	100	2.50
KTN1	chr14	56036924	56161296	124372	24	100	124	5.18
HIF1A	chr14	62138547	62238547	100000	40	50	100	2.50
ESR2	chr14	64671771	64771771	100000	40	50	100	2.50
RAB15	chr14	65375703	65475703	100000	40	50	100	2.50
GPHN	chr14	66964124	67658525	694401	138	100	694	5.03
RAD51B	chr14	68276495	68954810	678315	158	50*	678	4.29
MLH3	chr14	75449350	75549350	100000	20	100	100	5.00
TSHR	chr14	81411868	81585294	173426	34	100	173	5.10
TRIP11	chr14	92420322	92520322	100000	20	100	100	5.00
GOLGA5	chr14	93233476	93333476	100000	20	100	100	5.00
DICER1	chr14	95526202	95626202	100000	20	100	100	5.00
TCL6	chr14	96078651	96178651	100000	30	100	100	3.33
TCL1A	chr14	96128418	96228418	100000	20	100	100	5.00
BCL11B	chr14	99625624	99747822	122198	24	100	122	5.09
HSP90AA1	chr14	102500293	102600293	100000	20	100	100	5.00
XRCC3	chr14	104122888	104222888	100000	38	55	100	2.63
AKT1	chr14	105197812	105297812	100000	39	50	100	2.56

IGH@	chr14	106022614	107298051	1275437	232	110	1275	5.50
GABRB3	chr15	26778693	26884237	105544	21	100	106	5.03
C15orf55	chr15	34593998	34693998	100000	19	105	100	5.26
MEIS2	chr15	37173221	37400562	227341	45	100	227	5.05
SPRED1	chr15	38535051	38659450	124399	24	100	124	5.18
THBS1	chr15	39831473	39931473	100000	20	100	100	5.00
BUB1B	chr15	40433273	40533273	100000	20	100	100	5.00
CASC5	chr15	40870663	40970663	100000	28	100	100	3.57
RAD51	chr15	40955841	41055841	100000	41	50	100	2.44
LTK	chr15	41750962	41850962	100000	20	100	100	5.00
HMG2P46	chr15	45776130	45876130	100000	20	100	100	5.00
CYP19A1	chr15	51490253	51640795	150542	60	50	151	2.51
TCF12	chr15	57200832	57590714	389882	77	100	390	5.06
HERC1	chr15	63890816	64136147	245331	48	100	245	5.11
MAP2K1	chr15	66669210	66793882	124672	24	100	125	5.19
SMAD6	chr15	66984505	67084505	100000	39	50	100	2.56
PKM2	chr15	72456716	72556716	100000	40	50	100	2.50
PML	chr15	74257874	74357874	100000	39	50	100	2.56
CYP1A1	chr15	74964879	75064879	100000	38	55	100	2.63
CHRNA5	chr15	78822736	78922736	100000	57	50	100	1.75
CHRNA3	chr15	78849515	78949515	100000	47	50	100	2.13
CHRNA4	chr15	78875111	78975111	100000	41	50	100	2.44
ADAMTSL3	chr15	84312837	84718593	405756	81	100	406	5.01
NTRK3	chr15	88409987	88809962	399975	79	100	400	5.06
ACAN	chr15	89332629	89432629	100000	20	100	100	5.00
IDH2	chr15	90586459	90686459	100000	20	100	100	5.00
CRTC3	chr15	91063197	91198577	135380	27	100	135	5.01
BLM	chr15	91250578	91368686	118108	23	100	118	5.14
FES	chr15	91383335	91483335	100000	39	50	100	2.56
IGF1R	chr15	99182760	99517759	334999	133	50	335	2.52
PCSK6	chr15	101834132	102040187	206055	41	100	206	5.03
TSC2	chr16	2068351	2168351	100000	36	55	100	2.78
MLST8	chr16	2207297	2307297	100000	40	50	100	2.50
PDPK1	chr16	2570579	2670579	100000	30	65	100	3.33
CREBBP	chr16	3765055	3940121	175066	35	100	175	5.00
RBFOX1	chr16	6059131	7773340	1714209	252	60*	1714	6.80
EMP2	chr16	10598408	10698408	100000	20	100	100	5.00
CIITA	chr16	10944947	11044947	100000	19	105	100	5.26
SOCS1	chr16	11299156	11399156	100000	19	105	100	5.26
TNFRSF17	chr16	12010444	12110444	100000	21	100	100	4.76
ERCC4	chr16	13980109	14080109	100000	20	100	100	5.00
MYH11	chr16	15786991	15960887	173896	34	100	174	5.11
ABCC1	chr16	16033433	16246930	213497	42	100	213	5.08
PALB2	chr16	23583580	23683580	100000	20	100	100	5.00

IL21R	chr16	27388422	27488422	100000	20	100	100	5.00
SULT1A1	chr16	28568778	28668778	100000	30	65	100	3.33
FUS	chr16	31148811	31248811	100000	20	100	100	5.00
SIAH1	chr16	48347114	48447114	100000	20	100	100	5.00
CYLD	chr16	50755903	50855903	100000	19	105	100	5.26
HERPUD1	chr16	56921770	57021770	100000	20	100	100	5.00
CDH11	chr16	64970682	65165919	195237	39	100	195	5.01
CBFB	chr16	67049003	67149003	100000	20	100	100	5.00
CDH1	chr16	68761194	68879444	118250	47	50	118	2.52
NQO1	chr16	69701918	69801918	100000	20	100	100	5.00
PHLPP2	chr16	71663777	71763777	100000	39	50	100	2.56
BCAR1	chr16	75217953	75317953	100000	20	100	100	5.00
ADAMTS18	chr16	77306024	77479011	172987	34	100	173	5.09
WWOX	chr16	78083711	78183711	100000	40	50	100	2.50
MAF	chr16	79581183	79681183	100000	20	100	100	5.00
BCMO1	chr16	81248521	81348521	100000	18	110	100	5.56
CDH13	chr16	82650398	83224630	574232	114	100	574	5.04
CRISPLD2	chr16	84843586	84953116	109530	21	100	110	5.22
SLC7A5	chr16	87833364	87933364	100000	20	100	100	5.00
CBFA2T3	chr16	88924435	89024435	100000	20	100	100	5.00
ANKRD11	chr16	89324028	89566969	242941	47	100	243	5.17
FANCA	chr16	89793511	89893511	100000	20	100	100	5.00
MC1R	chr16	89935835	90035835	100000	40	50	100	2.50
GAS8	chr16	90050179	90150179	100000	20	100	100	5.00
CRK	chr17	1292103	1392103	100000	40	50	100	2.50
HIC1	chr17	1910686	2010686	100000	19	105	100	5.26
MNT	chr17	2245805	2345805	100000	20	100	100	5.00
USP6	chr17	5005005	5105005	100000	19	105	100	5.26
RABEP1	chr17	5175557	5299132	123575	24	100	124	5.15
TP53	chr17	7525265	7625265	100000	99	50	100	1.01
PER1	chr17	7999770	8099770	100000	20	100	100	5.00
GAS7	chr17	9803925	10111868	307943	61	100	308	5.05
MAP2K4	chr17	11914134	12057051	142917	56	50	143	2.55
ELAC2	chr17	12858154	12958154	100000	20	100	100	5.00
FLCN	chr17	17078014	17178014	100000	20	100	100	5.00
SPECC1	chr17	19902648	20228072	325424	64	100	325	5.08
PIGS	chr17	26839646	26939646	100000	20	100	100	5.00
FLOT2	chr17	27165535	27265535	100000	40	50	100	2.50
NF1	chr17	29411944	29559782	147838	59	50	148	2.51
SUZ12	chr17	30246050	30346050	100000	20	100	100	5.00
TAF15	chr17	34105362	34205362	100000	20	100	100	5.00
HNF1B	chr17	36025764	36125764	100000	20	100	100	5.00
MLLT6	chr17	36823964	36923964	100000	33	100	100	3.03
PIP4K2B	chr17	36889050	36989050	100000	39	50	100	2.56

LASP1	chr17	37002067	37102067	100000	19	105	100	5.26
MED1	chr17	37534032	37634032	100000	26	100	100	3.85
CDK12	chr17	37604269	37704269	100000	20	100	100	5.00
ERBB2	chr17	37814653	37914653	100000	100	50	100	1.00
THRA	chr17	38184282	38284282	100000	20	100	100	5.00
RARA	chr17	38439658	38539658	100000	45	50	100	2.22
TOP2A	chr17	38509487	38609487	100000	29	100	100	3.45
IGFBP4	chr17	38556828	38656828	100000	20	100	100	5.00
KCNH4	chr17	40271102	40371102	100000	20	100	100	5.00
STAT5A	chr17	40401762	40501762	100000	28	100	100	3.57
STAT3	chr17	40452873	40552873	100000	20	100	100	5.00
BRCA1	chr17	41186221	41286221	100000	99	50	100	1.01
ETV4	chr17	41564257	41664257	100000	20	100	100	5.00
HOXB3	chr17	46589020	46689020	100000	40	50	100	2.50
COL1A1	chr17	48220228	48320228	100000	20	100	100	5.00
ABCC3	chr17	48678753	48778753	100000	95	50	100	1.05
NME1	chr17	49185184	49285184	100000	20	100	100	5.00
HLF	chr17	53322373	53422373	100000	20	100	100	5.00
MSI2	chr17	55323930	55767299	443369	88	100	443	5.04
CLTC	chr17	57685683	57785683	100000	20	100	100	5.00
RPS6KB1	chr17	57949114	58049114	100000	20	100	100	5.00
PPM1D	chr17	58660591	58760591	100000	20	100	100	5.00
BRIP1	chr17	59746546	59950920	204374	40	100	204	5.11
CD79B	chr17	61957900	62057900	100000	19	105	100	5.26
DDX5	chr17	62448428	62548428	100000	19	105	100	5.26
AXIN2	chr17	63491211	63591211	100000	40	50	100	2.50
PRKAR1A	chr17	66468509	66568509	100000	20	100	100	5.00
SEPT9	chr17	75267491	75506678	239187	47	100	239	5.09
TK1	chr17	76126722	76226722	100000	19	105	100	5.26
CANT1	chr17	76946848	77046848	100000	20	100	100	5.00
RNF213	chr17	78214960	78314960	100000	20	100	100	5.00
RPTOR	chr17	78508624	78950173	441549	176	50	442	2.51
ASPCR1	chr17	79905353	80005353	100000	19	105	100	5.26
CSNK1D	chr17	80166065	80266065	100000	20	100	100	5.00
TYMS	chr18	615551	715551	100000	21	100	100	4.76
YES1	chr18	711591	822327	110736	43	50	111	2.58
LAMA1	chr18	6931742	7127813	196071	39	100	196	5.03
ZNF521	chr18	22631887	22942214	310327	62	100	310	5.01
SS18	chr18	23583413	23683413	100000	19	105	100	5.26
CDH2	chr18	25520929	25767445	246516	49	100	247	5.03
NOL4	chr18	31421063	31638576	217513	43	100	218	5.06
PIK3C3	chr18	39525198	39671446	146248	28	105	146	5.22
SMAD7	chr18	46407699	46507699	100000	40	50	100	2.50
SMAD4	chr18	48533996	48633996	100000	40	50	100	2.50

DCC	chr18	49856541	51072273	1215732	244	100	1216	4.98
MALT1	chr18	56327993	56427993	100000	20	100	100	5.00
PMAIP1	chr18	57519364	57619364	100000	20	100	100	5.00
PHLPP1	chr18	60372671	60657676	285005	113	50	285	2.52
BCL2	chr18	60780578	60996613	216035	45	100	216	4.80
KDSR	chr18	60964738	61064738	100000	19	105	100	5.26
SERPINB5	chr18	61108230	61208230	100000	20	100	100	5.00
SERPINB2	chr18	61513031	61613031	100000	19	105	100	5.26
CD226	chr18	67520192	67634232	114040	22	100	114	5.18
CTDP1	chr18	77427155	77527155	100000	20	100	100	5.00
PPAP2C	chr19	236106	336106	100000	35	55	100	2.86
FSTL3	chr19	629890	729890	100000	20	100	100	5.00
STK11	chr19	1167115	1267115	100000	89	50	100	1.12
TCF3	chr19	1579787	1679787	100000	20	100	100	5.00
MAP2K2	chr19	4057222	4157222	100000	20	100	100	5.00
SH3GL1	chr19	4330389	4430389	100000	20	100	100	5.00
MLLT1	chr19	6195175	6295175	100000	19	105	100	5.26
INSR	chr19	7102265	7304011	201746	80	50	202	2.52
MUC16	chr19	8949519	9102018	152499	60	50	152	2.54
DNMT1	chr19	10224888	10324888	100000	40	50	100	2.50
KEAP1	chr19	10555138	10655138	100000	20	100	100	5.00
SMARCA4	chr19	11061597	11182958	121361	24	100	121	5.06
JUNB	chr19	12853217	12953217	100000	20	100	100	5.00
LYL1	chr19	13161907	13261907	100000	20	100	100	5.00
ZSWIM4	chr19	13874658	13974658	100000	20	100	100	5.00
CC2D1A	chr19	13979324	14079324	100000	19	105	100	5.26
NOTCH3	chr19	15241117	15341117	100000	21	100	100	4.76
BRD4	chr19	15319781	15419781	100000	18	110	100	5.56
TPM4	chr19	16146064	16246064	100000	20	100	100	5.00
CPAMD8	chr19	16993761	17147625	153864	30	100	154	5.13
JAK3	chr19	17897216	17997216	100000	20	100	100	5.00
PIK3R2	chr19	18222679	18322679	100000	39	50	100	2.56
GDF15	chr19	18448476	18548476	100000	21	100	100	4.76
ELL	chr19	18543204	18643204	100000	19	105	100	5.26
CRTC1	chr19	18784424	18903143	118719	23	100	119	5.16
UQCFS1	chr19	29651151	29751151	100000	20	100	100	5.00
CCNE1	chr19	30259057	30359057	100000	40	50	100	2.50
RHPN2	chr19	33459497	33565824	106327	40	55	106	2.66
CEBPA	chr19	33742134	33842134	100000	39	50	100	2.56
RYR1	chr19	38914339	39088204	173865	33	105	174	5.27
NFKBIB	chr19	39344936	39444936	100000	20	100	100	5.00
AKT2	chr19	40713762	40813762	100000	100	50	100	1.00
CYP2A6	chr19	41302897	41402897	100000	39	50	100	2.56
AXL	chr19	41696389	41796389	100000	40	50	100	2.50

TGFB1	chr19	41798321	41898321	100000	40	50	100	2.50
CD79A	chr19	42333314	42433314	100000	19	105	100	5.26
GSK3A	chr19	42690536	42790536	100000	54	50	100	1.85
CIC	chr19	42744382	42844382	100000	26	100	100	3.85
XRCC1	chr19	44013596	44113596	100000	40	50	100	2.50
BCL3	chr19	45207639	45307639	100000	32	100	100	3.13
CBLC	chr19	45242514	45342514	100000	20	100	100	5.00
APOE	chr19	45360844	45460844	100000	39	50	100	2.56
ERCC2	chr19	45814246	45914246	100000	35	100	100	2.86
ERCC1	chr19	45868883	45968883	100000	40	50	100	2.50
BBC3	chr19	47679264	47779264	100000	20	100	100	5.00
GLTSCR2	chr19	48204557	48304557	100000	20	100	100	5.00
BAX	chr19	49411317	49511317	100000	20	100	100	5.00
AKT1S1	chr19	50326437	50426437	100000	39	50	100	2.56
KLK3	chr19	51309066	51409066	100000	31	100	100	3.23
KLK2	chr19	51330255	51430255	100000	19	105	100	5.26
PPP2R1A	chr19	52661366	52761366	100000	20	100	100	5.00
ZNF331	chr19	54003849	54103849	100000	20	100	100	5.00
TFPT	chr19	54564687	54664687	100000	20	100	100	5.00
SOX11	chr2	5787157	5887157	100000	40	50	100	2.50
MYCN	chr2	16033905	16133905	100000	132	50	100	0.76
GEN1	chr2	17900904	18000904	100000	40	50	100	2.50
NCOA1	chr2	24797345	25003570	206225	41	100	206	5.03
DNMT3A	chr2	25415506	25515506	100000	20	100	100	5.00
CYP1B1	chr2	38249034	38349034	100000	40	50	100	2.50
SOS1	chr2	39198689	39357604	158915	63	50	159	2.52
EML4	chr2	42386489	42569688	183199	72	50	183	2.54
MSH2	chr2	47620262	47720360	100098	40	50	100	2.50
MSH6	chr2	47972156	48072156	100000	40	50	100	2.50
REL	chr2	61079464	61179464	100000	127	50	100	0.79
INPP4A	chr2	99051320	99208284	156964	161	50	157	0.97
AFF3	chr2	100153715	100732045	578330	116	100	578	4.99
FHL2	chr2	105946428	106046428	100000	20	100	100	5.00
MERTK	chr2	112646190	112796945	150755	30	100	151	5.03
TTL	chr2	113214982	113314982	100000	20	100	100	5.00
PAX8	chr2	113955035	114055035	100000	40	50	100	2.50
STEAP3	chr2	119952305	120052305	100000	21	100	100	4.76
BIN1	chr2	127785250	127885250	100000	20	100	100	5.00
ERCC3	chr2	127983308	128083308	100000	20	100	100	5.00
LRP1B	chr2	140978995	142899270	1920275	803	50*	1920	2.39
NEB	chr2	152331852	152601001	269149	53	100	269	5.08
RPRM	chr2	154284586	154384586	100000	20	100	100	5.00
MYO3B	chr2	171024654	171521674	497020	99	100	497	5.02
PKD1	chr2	173392320	173492320	100000	39	50	100	2.56

CHN1	chr2	175638193	175738193	100000	21	100	100	4.76
HOXD13	chr2	176909098	177009098	100000	16	125	100	6.25
HOXD11	chr2	176923199	177023199	100000	18	110	100	5.56
NFE2L2	chr2	178061823	178161823	100000	20	100	100	5.00
PMS1	chr2	190638810	190752355	113545	44	50	114	2.58
CASP8	chr2	202072401	202172401	100000	20	100	100	5.00
CREB1	chr2	208382449	208482449	100000	20	100	100	5.00
IDH1	chr2	209060379	209160379	100000	20	100	100	5.00
ERBB4	chr2	212230441	213413352	1182911	342	50*	1183	3.46
BARD1	chr2	215583274	215684428	101154	18	110	101	5.62
ATIC	chr2	216145587	216245587	100000	20	100	100	5.00
FEV	chr2	219798093	219898093	100000	20	100	100	5.00
STK11IP	chr2	220421884	220521884	100000	19	105	100	5.26
PAX3	chr2	223054605	223173715	119110	22	105	119	5.41
ACSL3	chr2	223715731	223818119	102388	19	105	102	5.39
IRS1	chr2	227579769	227679769	100000	41	50	100	2.44
CXCR7	chr2	237434686	237534686	100000	20	100	100	5.00
BOK	chr2	242455849	242555849	100000	39	50	100	2.56
SOX12	chr20	258552	358552	100000	20	100	100	5.00
TGM3	chr20	2249168	2349168	100000	20	100	100	5.00
PCNA	chr20	5048122	5148122	100000	20	100	100	5.00
PAK7	chr20	9508036	9829687	321651	128	50	322	2.51
MACROD2	chr20	13966145	16043841	2077696	868	50*	2078	2.39
BCL2L1	chr20	30231458	30331458	100000	40	50	100	2.50
ASXL1	chr20	30903249	31003249	100000	20	100	100	5.00
E2F1	chr20	32218750	32318750	100000	20	100	100	5.00
SRC	chr20	35953454	36053454	100000	40	50	100	2.50
MAFB	chr20	39266196	39366196	100000	20	100	100	5.00
TOP1	chr20	39647461	39763126	115665	23	100	116	5.03
MYBL2	chr20	42270415	42370415	100000	20	100	100	5.00
NCOA3	chr20	46120600	46295621	175021	70	50	175	2.50
CSE1L	chr20	47638139	47738139	100000	20	100	100	5.00
PTPN1	chr20	49113988	49213988	100000	20	100	100	5.00
ZNF217	chr20	52141622	52241622	100000	20	100	100	5.00
CYP24A1	chr20	52730251	52830251	100000	20	100	100	5.00
AURKA	chr20	54905897	55005897	100000	20	100	100	5.00
GNAS	chr20	57400522	57500522	100000	19	105	100	5.26
SS18L1	chr20	60688193	60788193	100000	20	100	100	5.00
TNFRSF6B	chr20	62279027	62379027	100000	20	100	100	5.00
TPD52L2	chr20	62459739	62559739	100000	20	100	100	5.00
OLIG2	chr21	34349859	34449859	100000	19	105	100	5.26
ITSN1	chr21	35004783	35220802	216019	42	100	216	5.14
RUNX1	chr21	36150097	36270987	120890	23	105	121	5.26
DYRK1A	chr21	38729858	38897679	167821	33	100	168	5.09

ERG	chr21	39729182	40043618	314436	62	100	314	5.07
TMPRSS2	chr21	42808234	42908234	100000	20	100	100	5.00
COL18A1	chr21	46815096	46943634	128538	21	120	129	6.12
PCNT	chr21	47734035	47875682	141647	26	110	142	5.45
BID	chr22	18186856	18286856	100000	22	100	100	4.55
CLTCL1	chr22	19156986	19289239	132253	25	105	132	5.29
SEPT5	chr22	19656415	19756415	100000	17	120	100	5.88
GNB1L	chr22	19759197	19859197	100000	20	100	100	5.00
COMT	chr22	19893380	19993380	100000	39	50	100	2.56
CRKL	chr22	21239875	21339875	100000	38	55	100	2.63
PPM1F	chr22	22240520	22340520	100000	40	50	100	2.50
BCR	chr22	23512551	23670224	157673	29	105	158	5.44
SMARCB1	chr22	24102927	24202927	100000	20	100	100	5.00
GSTT1	chr22	24330211	24430211	100000	40	50	100	2.50
MN1	chr22	28120875	28220875	100000	19	105	100	5.26
CHEK2	chr22	29060776	29160776	100000	20	100	100	5.00
EWSR1	chr22	29625334	29725334	100000	19	105	100	5.26
NF2	chr22	29989544	30089904	100360	20	100	100	5.02
PATZ1	chr22	31682019	31782019	100000	20	100	100	5.00
TIMP3	chr22	33177914	33277914	100000	20	100	100	5.00
MYH9	chr22	36667322	36794063	126741	25	100	127	5.07
CSF2RB	chr22	37273076	37373076	100000	20	100	100	5.00
PLA2G6	chr22	38492631	38592631	100000	38	55	100	2.63
PDGFB	chr22	39578299	39678299	100000	20	100	100	5.00
MKL1	chr22	40796291	41042690	246399	48	100	246	5.13
ST13	chr22	41186643	41286643	100000	20	100	100	5.00
EP300	chr22	41478613	41586081	107468	21	100	107	5.12
CYP2D6	chr22	42474691	42574691	100000	38	55	100	2.63
ARHGAP8	chr22	45138437	45268664	130227	26	100	130	5.01
GTSE1	chr22	46659672	46759672	100000	21	100	100	4.76
CELSR1	chr22	46746730	46943067	196337	38	105	196	5.17
ARSA	chr22	51013891	51113891	100000	20	100	100	5.00
CHL1	chr3	228278	461097	232819	49	100	233	4.75
SRGAP3	chr3	9012277	9301311	289034	57	100	289	5.07
FANCD2	chr3	10054728	10154728	100000	34	100	100	2.94
VHL	chr3	10139336	10239336	100000	101	50	100	0.99
PPARG	chr3	12319348	12485855	166507	34	100	167	4.90
RAF1	chr3	12615099	12715700	100601	40	50	101	2.52
XPC	chr3	14153409	14253409	100000	19	105	100	5.26
KAT2B	chr3	20071523	20205896	134373	26	100	134	5.17
THRB	chr3	24148644	24546313	397669	79	100	398	5.03
TGFBR2	chr3	30637993	30745633	107640	43	50	108	2.50
MLH1	chr3	37013588	37113588	100000	40	50	100	2.50
CTNNB1	chr3	41211440	41311440	100000	40	50	100	2.50

SETD2	chr3	47047897	47215467	167570	34	100	168	4.93
SHISA5	chr3	48475428	48575428	100000	21	100	100	4.76
NCKIPSD	chr3	48667305	48767305	100000	20	100	100	5.00
MST1R	chr3	49882870	49982870	100000	40	50	100	2.50
RASSF1	chr3	50321055	50421055	100000	20	100	100	5.00
DOCK3	chr3	50702671	51431629	728958	148	100	729	4.93
BAP1	chr3	52389516	52489516	100000	19	105	100	5.26
PBRM1	chr3	52569367	52723739	154372	30	100	154	5.15
FHIT	chr3	59725035	61247133	1522098	243	50*	1522	6.26
PSMD6	chr3	63952675	64052675	100000	20	100	100	5.00
MITF	chr3	69778585	70027488	248903	365	50	249	0.68
FOXP1	chr3	70993864	71124074	130210	26	100	130	5.01
ROBO2	chr3	77079293	77709114	629821	126	100	630	5.00
ROBO1	chr3	78636387	79078609	442222	88	100	442	5.03
EPHA3	chr3	89146673	89459495	312822	63	100	313	4.97
TFG	chr3	100397972	100497972	100000	20	100	100	5.00
CBLB	chr3	105367108	105597887	230779	46	100	231	5.02
GSK3B	chr3	119530801	119823264	292463	120	50	292	2.44
MYLK	chr3	123285336	123385336	100000	20	100	100	5.00
GATA2	chr3	128152514	128252514	100000	17	120	100	5.88
RPN1	chr3	128304265	128404265	100000	20	100	100	5.00
CNBP	chr3	128844733	128944733	100000	20	100	100	5.00
EPHB1	chr3	134504098	134989307	485209	96	100	485	5.05
MRAS	chr3	138045433	138145433	100000	19	105	100	5.26
PIK3CB	chr3	138349001	138449001	100000	41	50	100	2.44
FOXL2	chr3	138614523	138714523	100000	19	105	100	5.26
ATR	chr3	142158076	142307668	149592	30	100	150	4.99
SIAH2	chr3	150420086	150520086	100000	20	100	100	5.00
GMPS	chr3	155571922	155671922	100000	20	100	100	5.00
CCNL1	chr3	156822033	156922033	100000	20	100	100	5.00
MLF1	chr3	158256600	158356600	100000	19	105	100	5.26
MECOM	chr3	168782689	168882689	100000	21	100	100	4.76
PRKCI	chr3	169930219	170033770	103551	41	50	104	2.53
EIF5A2	chr3	170566314	170666314	100000	20	100	100	5.00
ZMAT3	chr3	178712333	178812333	100000	20	100	100	5.00
PIK3CA	chr3	178856310	178962497	106187	42	50	106	2.53
SOX2	chr3	181380967	181480967	100000	20	100	100	5.00
ETV5	chr3	185745503	185845503	100000	20	100	100	5.00
EIF4A2	chr3	186454522	186554522	100000	21	100	100	4.76
BCL6	chr3	187395929	187495929	100000	20	100	100	5.00
LPP	chr3	187861662	188618460	756798	151	100	757	5.01
TP63	chr3	189339215	189609284	270069	108	50	270	2.50
LEPREL1	chr3	189664516	189848908	184392	38	100	184	4.85
TFRC	chr3	195742557	195842557	100000	20	100	100	5.00

PAK2	chr3	196456727	196569518	112791	45	50	113	2.51
MFI2	chr3	196692649	196792649	100000	19	105	100	5.26
GAK	chr4	833064	936174	103110	17	120	103	6.07
FGFR3	chr4	1752818	1852818	100000	38	55	100	2.63
WHSC1	chr4	1863122	1993934	130812	26	100	131	5.03
DHX15	chr4	24507635	24607635	100000	19	105	100	5.26
RHOH	chr4	40172403	40272403	100000	20	100	100	5.00
PHOX2B	chr4	41698542	41798542	100000	20	100	100	5.00
KCTD8	chr4	44165919	44460824	294905	58	100	295	5.08
GABRA2	chr4	46241580	46401396	159816	32	100	160	4.99
FIP1L1	chr4	54233819	54336103	102284	20	100	102	5.11
CHIC2	chr4	54853386	54953386	100000	20	100	100	5.00
PDGFRA	chr4	55079837	55179837	100000	40	50	100	2.50
KIT	chr4	55514094	55616881	102787	41	50	103	2.51
KDR	chr4	55918093	56018093	100000	40	50	100	2.50
LPHN3	chr4	62352838	62948168	595330	119	100	595	5.00
EPHA5	chr4	66175280	66545653	370373	74	100	370	5.01
RCHY1	chr4	76371943	76471943	100000	19	105	100	5.26
FRAS1	chr4	78968723	79377787	409064	81	100	409	5.05
AFF1	chr4	87846153	88072206	226053	45	100	226	5.02
TMSL3	chr4	91709949	91809949	100000	40	50	100	2.50
RAP1GDS1	chr4	99172526	99375012	202486	40	100	202	5.06
EIF4E	chr4	99774924	99874924	100000	20	100	100	5.00
NFKB1	chr4	103412485	103548459	135974	54	50	136	2.52
TET2	chr4	106057031	106173928	116897	47	50	117	2.49
IL2	chr4	123325137	123425137	100000	20	100	100	5.00
HSPA4L	chr4	128678989	128778989	100000	20	100	100	5.00
INPP4B	chr4	142939181	143777604	838423	364	50*	838	2.30
FBXW7	chr4	153208259	153308259	100000	20	100	100	5.00
DCHS2	chr4	155145526	155322449	176923	35	100	177	5.05
GLRB	chr4	157987276	158103242	115966	23	100	116	5.04
VEGFC	chr4	177594690	177723895	129205	25	100	129	5.17
CASP3	chr4	185509739	185609739	100000	19	105	100	5.26
FAT1	chr4	187498936	187654987	156051	62	50	156	2.52
TERT	chr5	1224224	1324224	100000	39	50	100	2.56
CLPTM1L	chr5	1281500	1381500	100000	40	50	100	2.50
GOLPH3	chr5	32099624	32199624	100000	40	50	100	2.50
AMACR	chr5	33947655	34047655	100000	20	100	100	5.00
LIFR	chr5	38465064	38566748	101684	20	100	102	5.08
RICTOR	chr5	38928021	39084501	156480	63	50	156	2.48
DAB2	chr5	39348555	39448555	100000	20	100	100	5.00
IL6ST	chr5	55210872	55310872	100000	20	100	100	5.00
MAP3K1	chr5	56100899	56201978	101079	20	100	101	5.05
PLK2	chr5	57702887	57802887	100000	39	50	100	2.56

PIK3R1	chr5	67501583	67607649	106066	42	50	106	2.53
VCAN	chr5	82757492	82888122	130630	26	100	131	5.02
MEF2C	chr5	88004057	88129744	125687	25	100	126	5.03
APC	chr5	112033201	112191936	158735	63	50	159	2.52
ACSL6	chr5	131266510	131366510	100000	19	105	100	5.26
RAD50	chr5	131882615	131990313	107698	21	100	108	5.13
AFF4	chr5	132201070	132309354	108284	22	100	108	4.92
EGR1	chr5	137753092	137853092	100000	20	100	100	5.00
ARHGAP26	chr5	142140291	142618572	478281	96	100	478	4.98
CSNK1A1	chr5	148852925	148952925	100000	20	100	100	5.00
CSF1R	chr5	149412894	149512894	100000	31	100	100	3.23
PDGFRB	chr5	149464411	149564411	100000	41	50	100	2.44
CD74	chr5	149736849	149836849	100000	20	100	100	5.00
ITK	chr5	156595007	156695007	100000	20	100	100	5.00
RANBP17	chr5	170278895	170737019	458124	100	100	458	4.58
TLX3	chr5	170687712	170787712	100000	28	100	100	3.57
NPM1	chr5	170774219	170874219	100000	19	105	100	5.26
FGFR4	chr5	176469523	176569523	100000	40	50	100	2.50
NSD1	chr5	176550079	176737214	187135	43	100	187	4.35
FLT4	chr5	180002564	180102564	100000	20	100	100	5.00
IRF4	chr6	351590	451590	100000	20	100	100	5.00
TPMT	chr6	18091959	18191959	100000	40	50	100	2.50
DEK	chr6	18194599	18294599	100000	20	100	100	5.00
E2F3	chr6	20392136	20503945	111809	45	50	112	2.48
HIST1H4I	chr6	27057272	27157272	100000	20	100	100	5.00
TRIM27	chr6	28831273	28931273	100000	35	100	100	2.86
IER3	chr6	30661651	30761651	100000	23	100	100	4.35
POU5F1	chr6	31083364	31183364	100000	19	105	100	5.26
HLA-B	chr6	31273318	31373318	100000	41	50	100	2.44
LTA	chr6	31490986	31590986	100000	46	50	100	2.17
HSPA1A	chr6	31734504	31834504	100000	25	100	100	4.00
RDBP	chr6	31873363	31973363	100000	22	100	100	4.55
NOTCH4	chr6	32127231	32227231	100000	25	100	100	4.00
HLA-DRB1	chr6	32502079	32602079	100000	21	95	100	4.76
ITPR3	chr6	33576751	33676751	100000	19	105	100	5.26
HMGA1	chr6	34159292	34259292	100000	20	100	100	5.00
FANCE	chr6	35377509	35477509	100000	19	105	100	5.26
SRSF3	chr6	36517166	36617166	100000	23	100	100	4.35
CDKN1A	chr6	36599676	36699676	100000	23	100	100	4.35
PIM1	chr6	37090562	37190562	100000	20	100	100	5.00
TFEB	chr6	41627256	41727256	100000	20	100	100	5.00
CCND3	chr6	41856111	41956111	100000	20	100	100	5.00
VEGFA	chr6	43696084	43796084	100000	40	50	100	2.50
HSP90AB1	chr6	44168231	44268231	100000	20	100	100	5.00

PKHD1	chr6	51470144	51962423	492279	98	100	492	5.02
RRAGD	chr6	90048164	90148164	100000	40	50	100	2.50
MAP3K7	chr6	91211058	91311058	100000	20	100	100	5.00
EPHA7	chr6	93939739	94139300	199561	39	100	200	5.12
PRDM1	chr6	106496004	106596004	100000	18	110	100	5.56
AIM1	chr6	106939031	107039031	100000	20	100	100	5.00
OSTM1	chr6	108329276	108429276	100000	40	50	100	2.50
FOXO3	chr6	108871025	109015971	144946	58	50	145	2.50
SESN1	chr6	109268915	109368915	100000	19	105	100	5.26
REV3L	chr6	111610233	111814414	204181	81	50	204	2.52
HDAC2	chr6	114224839	114324839	100000	40	50	100	2.50
ROS1	chr6	117599529	117757018	157489	62	50	157	2.54
GOPC	chr6	117852568	117952568	100000	20	100	100	5.00
STL	chr6	125206782	125306782	100000	20	100	100	5.00
SGK1	chr6	134443208	134543208	100000	40	50	100	2.50
MYB	chr6	135471381	135571381	100000	20	100	100	5.00
TNFAIP3	chr6	138146514	138246514	100000	20	100	100	5.00
PERP	chr6	138369150	138469150	100000	20	100	100	5.00
EPM2A	chr6	145936439	146066991	130552	26	100	131	5.02
GRM1	chr6	146338781	146768731	429950	85	100	430	5.06
ESR1	chr6	152001630	152434408	432778	87	100	433	4.97
SOD2	chr6	160057250	160157250	100000	40	50	100	2.50
PARK2	chr6	161758589	163158834	1400245	299	50*	1400	4.68
FGFR1OP	chr6	167383440	167483440	100000	20	100	100	5.00
MLLT4	chr6	168217670	168375793	158123	31	100	158	5.10
PDGFA	chr7	498188	598188	100000	39	50	100	2.56
GPER	chr7	1079946	1179946	100000	43	50	100	2.33
CARD11	chr7	2935709	3093509	157800	32	100	158	4.93
PMS2	chr7	5980803	6080803	100000	33	60	100	3.03
RAC1	chr7	6378861	6478861	100000	45	50	100	2.22
ETV1	chr7	13920855	14036139	115284	25	100	115	4.61
HNRNPA2B1	chr7	26184984	26284984	100000	22	100	100	4.55
HOXA9	chr7	27153602	27253602	100000	21	100	100	4.76
HOXA11	chr7	27172805	27272805	100000	22	100	100	4.55
HOXA13	chr7	27188111	27288111	100000	20	100	100	5.00
JAZF1	chr7	27860192	28230437	370245	79	100	370	4.69
INHBA	chr7	41685653	41785653	100000	20	100	100	5.00
GLI3	chr7	41990547	42286618	296071	62	100	296	4.78
HECW1	chr7	43142197	43612938	470741	99	100	471	4.75
IGFBP1	chr7	45880612	45980612	100000	20	100	100	5.00
IGFBP3	chr7	45906357	46006357	100000	20	100	100	5.00
GRB10	chr7	50647759	50782998	135239	57	50	135	2.37
EGFR	chr7	55076724	55234644	157920	218	50	158	0.72
SBDS	chr7	66406638	66506638	100000	16	125	100	6.25

CLDN3	chr7	73133963	73233963	100000	19	105	100	5.26
ELN	chr7	73413331	73513331	100000	25	100	100	4.00
CLIP2	chr7	73693804	73830273	136469	28	100	136	4.87
HIP1	chr7	75152618	75378283	225665	47	100	226	4.80
STYXL1	chr7	75601487	75701487	100000	20	100	100	5.00
YWHAG	chr7	75922224	76022224	100000	19	105	100	5.26
ABCB1	chr7	87123178	87352639	229461	49	100	229	4.68
AKAP9	chr7	91560188	91749987	189799	38	100	190	4.99
CDK6	chr7	92224234	92473231	248997	50	100	249	4.98
LMTK2	chr7	97726196	97848944	122748	25	100	123	4.91
STAG3	chr7	99743773	99843773	100000	17	120	100	5.88
PILRB	chr7	99899570	99999570	100000	16	125	100	6.25
MOSPD3	chr7	100161362	100261362	100000	20	100	100	5.00
SERPINE1	chr7	100726462	100826462	100000	19	105	100	5.26
PIK3CG	chr7	106476757	106576757	100000	39	50	100	2.56
PPP1R3A	chr7	113487981	113587981	100000	20	100	100	5.00
MET	chr7	116302458	116448440	145982	195	50	146	0.75
GRM8	chr7	126068651	126893569	824918	185	100	825	4.46
FLNC	chr7	128434905	128534905	100000	20	100	100	5.00
SMO	chr7	128791048	128891048	100000	20	100	100	5.00
CREB3L2	chr7	137549724	137696847	147123	29	100	147	5.07
TRIM24	chr7	138135078	138280332	145254	29	100	145	5.01
KIAA1549	chr7	138506126	138676064	169938	34	100	170	5.00
HIPK2	chr7	139236315	139487693	251378	67	75	251	3.75
BRAF	chr7	140423812	140634564	210752	80	55	211	2.63
EPHB6	chr7	142510819	142610819	100000	19	105	100	5.26
CASP2	chr7	142945048	143045048	100000	24	100	100	4.17
EZH2	chr7	148492532	148592532	100000	22	100	100	4.55
RHEB	chr7	151140053	151240053	100000	40	50	100	2.50
MLL3	chr7	151822009	152143090	321081	61	105	321	5.26
MNX1	chr7	156749837	156849837	100000	20	100	100	5.00
CSMD1	chr8	2782874	4862328	2079454	734	50*	2079	2.83
MFHAS1	chr8	8631998	8761131	129133	25	100	129	5.17
GATA4	chr8	11539612	11639612	100000	19	105	100	5.26
CTSB	chr8	11662839	11762839	100000	20	100	100	5.00
MSR1	chr8	15955386	16060300	104914	20	100	105	5.25
SLC7A2	chr8	17341336	17441336	100000	20	100	100	5.00
PCM1	chr8	17770365	17897457	127092	29	100	127	4.38
ASAH1	chr8	17877901	17977901	100000	20	100	100	5.00
NAT1	chr8	18004584	18104584	100000	40	50	100	2.50
NAT2	chr8	18203738	18303738	100000	39	50	100	2.56
PSD3	chr8	18374812	18676405	301593	59	100	302	5.11
LPL	chr8	19760675	19860675	100000	20	100	100	5.00
POLR3D	chr8	22055649	22155649	100000	18	110	100	5.56

PPP3CC	chr8	22288482	22408657	120175	24	100	120	5.01
TNFRSF10B	chr8	22852173	22952173	100000	20	100	100	5.00
DOCK5	chr8	25032286	25280619	248333	50	100	248	4.97
PTK2B	chr8	27158998	27326908	167910	35	100	168	4.80
CCDC25	chr8	27560501	27660501	100000	20	100	100	5.00
SCARA5	chr8	27717398	27860369	142971	28	100	143	5.11
WRN	chr8	30880777	31041277	160500	32	100	161	5.02
WHSC1L1	chr8	38122560	38249790	127230	27	100	127	4.71
FGFR1	chr8	38247009	38347009	100000	40	50	100	2.50
KAT6A	chr8	41776996	41919505	142509	28	100	143	5.09
IKBKB	chr8	42109495	42209495	100000	39	50	100	2.56
HOOK3	chr8	42742032	42895682	153650	30	100	154	5.12
PRKDC	chr8	48675668	48882743	207075	87	50	207	2.38
TCEA1	chr8	54857061	54957061	100000	20	100	100	5.00
MOS	chr8	56976020	57076020	100000	39	50	100	2.56
PLAG1	chr8	57048663	57148663	100000	27	100	100	3.70
CHCHD7	chr8	57077745	57177745	100000	21	100	100	4.76
PREX2	chr8	68854602	69027654	173052	69	50	173	2.51
SLCO5A1	chr8	70574567	70755404	180837	36	100	181	5.02
NCOA2	chr8	71014266	71326020	311754	62	100	312	5.03
JPH1	chr8	75136938	75243562	106624	21	100	107	5.08
ZFHX4	chr8	77583514	77789521	206007	41	100	206	5.02
PKIA	chr8	79418335	79527502	109167	21	100	109	5.20
E2F5	chr8	86058185	86158185	100000	20	100	100	5.00
NBN	chr8	90921231	91021231	100000	20	100	100	5.00
RUNX1T1	chr8	92948551	93048551	100000	20	100	100	5.00
SDC2	chr8	97495881	97634037	138156	28	100	138	4.93
VPS13B	chr8	100015493	100143987	128494	25	100	128	5.14
COX6C	chr8	100848232	100948232	100000	20	100	100	5.00
NCALD	chr8	102688769	102813439	124670	24	100	125	5.19
RRM2B	chr8	103183893	103283893	100000	20	100	100	5.00
ATP6V1C1	chr8	104009266	104109266	100000	20	100	100	5.00
CSMD3	chr8	113225158	114399382	1174224	665	100*	1174	1.77
TRPS1	chr8	116410723	116691228	280505	56	100	281	5.01
EIF3H	chr8	117647054	117778062	131008	51	50	131	2.57
EXT1	chr8	118801601	119134058	332457	66	100	332	5.04
DEPTOR	chr8	120875899	121073157	197258	79	50	197	2.50
ZHX2	chr8	123783900	123996755	212855	42	100	213	5.07
MYC	chr8	128700997	128800997	100000	143	50	100	0.70
ADCY8	chr8	131782546	132062835	280289	56	100	280	5.01
PTK2	chr8	141658480	142021412	362932	73	100	363	4.97
BAI1	chr8	143535376	143636368	100992	17	120	101	5.94
PLEC	chr8	144951539	145051539	100000	40	50	100	2.50
RECQL4	chr8	145689938	145789938	100000	20	100	100	5.00

JAK2	chr9	4975244	5138183	162939	65	50	163	2.51
PTPRD	chr9	8304245	10622723	2318478	388	50*	2318	5.98
NFIB	chr9	14071841	14324045	252204	50	100	252	5.04
PSIP1	chr9	15437533	15537533	100000	20	100	100	5.00
RRAGA	chr9	19000196	19100196	100000	40	50	100	2.50
MLLT3	chr9	20334967	20632514	297547	61	100	298	4.88
MTAP	chr9	21784301	21884301	100000	20	100	100	5.00
CDKN2A	chr9	21921288	22021288	100000	109	50	100	0.92
CDKN2B	chr9	21956106	22056106	100000	108	50	100	0.93
TEK	chr9	27099146	27240172	141026	56	50	141	2.52
FANCG	chr9	35026923	35126923	100000	20	100	100	5.00
PAX5	chr9	36828530	37044476	215946	42	100	216	5.14
GNAQ	chr9	80325190	80656219	331029	66	100	331	5.02
NTRK2	chr9	87273465	87648505	375040	150	50	375	2.50
SYK	chr9	93554011	93670842	116831	23	100	117	5.08
ROR2	chr9	94474877	94722444	247567	49	100	248	5.05
OMD	chr9	95131681	95231681	100000	20	100	100	5.00
FANCC	chr9	97851335	98089536	238201	47	100	238	5.07
PTCH1	chr9	98187372	98287372	100000	19	105	100	5.26
XPA	chr9	100398440	100498440	100000	20	100	100	5.00
NR4A3	chr9	102540238	102640238	100000	20	100	100	5.00
TAL2	chr9	108375061	108475061	100000	20	100	100	5.00
TLR4	chr9	120423110	120523110	100000	20	100	100	5.00
DBC1	chr9	121918907	122141739	222832	43	100	223	5.18
CNTRL	chr9	123840573	123949886	109313	21	100	109	5.21
MAPKAP1	chr9	128189672	128479513	289841	116	50	290	2.50
ENG	chr9	130547168	130647168	100000	17	120	100	5.88
SET	chr9	131402304	131502304	100000	19	105	100	5.26
FNBP1	chr9	132639465	132815473	176008	35	100	176	5.03
ABL1	chr9	133579267	133773062	193795	76	50	194	2.55
NUP214	chr9	133990980	134119091	128111	24	105	128	5.34
TSC1	chr9	135743377	135843377	100000	39	50	100	2.56
BRD3	chr9	136864293	136964293	100000	17	120	100	5.88
NOTCH1	chr9	139364566	139464566	100000	33	60	100	3.03
TUBB4B	chr9	140086934	140186934	100000	38	55	100	2.63
CACNA1B	chr9	140762240	141029076	266836	48	110	267	5.56
P2RY8	chrX	1568751	1668751	100000	17	120	100	5.88
RAB9A	chrX	13667591	13767591	100000	21	100	100	4.76
DMD	chrX	31127344	31295024	167680	33	100	168	5.08
KDM6A	chrX	44722422	44981845	259423	51	100	259	5.09
ARAF	chrX	47372935	47472935	100000	38	55	100	2.63
SSX1	chrX	48070837	48170837	100000	17	120	100	5.88
WAS	chrX	48496001	48596001	100000	19	105	100	5.26
GATA1	chrX	48598849	48698849	100000	19	105	100	5.26

TFE3	chrX	48843615	48943615	100000	18	110	100	5.56
KDM5C	chrX	53187553	53287553	100000	19	105	100	5.26
RRAGB	chrX	55714658	55814658	100000	39	50	100	2.56
FAM123B	chrX	63365310	63465310	100000	20	100	100	5.00
MSN	chrX	64874651	64974651	100000	18	110	100	5.56
AR	chrX	66753873	66960461	206588	248	50	207	0.83
FOXO4	chrX	70269691	70369691	100000	41	50	100	2.44
NONO	chrX	70462029	70562029	100000	18	110	100	5.56
ERCC6L	chrX	71391682	71491682	100000	21	100	100	4.76
XIST	chrX	73006541	73106541	100000	18	110	100	5.56
PAK3	chrX	110177512	110474173	296661	116	50	297	2.56
SEPT6	chrX	118738510	118838510	100000	21	100	100	4.76
ELF4	chrX	129171684	129271684	100000	19	105	100	5.26
GPC3	chrX	132659775	133129673	469898	90	105	470	5.22
PHF6	chrX	133478331	133578331	100000	19	105	100	5.26
IRAK1	chrX	153230649	153330649	100000	39	50	100	2.56
FLNA	chrX	153539952	153639952	100000	18	110	100	5.56
MTCP1	chrX	154245927	154345927	100000	19	105	100	5.26

* denotes resolution in exons

Supplementary Table 2

List of CNVs mapped to 892 cancer related genes in Case 1. Each gene extended by 10k upstream and downstream and then to 100kb if it is less than 100kb.Coordinates are in bp.

Gene	chr	start	stop	Alteration
COMT	chr22	19,929,262	19,957,498	CN Gain
CRKL	chr22	21,271,713	21,308,037	CN Gain
CDK12	chr17	37,617,763	37,690,818	CN Gain
GNB1L	chr22	19,775,933	19,842,462	CN Gain
P2RY8	chrX	1,581,465	1,656,037	CN Gain
MYC	chr8	128,748,314	128,753,680	CN Loss
NOTCH1	chr9	139,388,895	139,440,238	CN Loss
TUBB4B	chr9	140,135,710	140,138,159	CN Loss
ILK	chr11	6,624,937	6,632,105	CN Loss
FES	chr15	91,427,664	91,439,006	CN Loss
BIN1	chr2	127,805,598	127,864,903	CN Loss
BAP1	chr3	52,435,019	52,444,121	CN Loss
POLR3D	chr8	22,102,618	22,108,680	CN Loss
BCAR1	chr16	75,262,927	75,301,951	CN Loss
EGFR	chr7	55,086,724	55,275,031	High Copy Gain
HNF1B	chr17	36,046,433	36,105,069	High Copy Gain

List of CNVs mapped to 892 cancer related genes in Case 2. Each gene extended by 10k upstream and downstream and then to 100kb if it is less than 100kb.Coordinates are in bp.

Gene	chr	start	stop	Alteration
RAB25	chr1	156,030,965	156,040,295	CN Gain
CDK4	chr12	58,141,509	58,146,230	CN Gain
MDM2	chr12	69,201,951	69,239,324	CN Gain
NOTCH2NL	chr1	145,209,112	145,286,270	CN Gain
GOLPH3L	chr1	150,618,700	150,669,672	CN Gain
NTRK1	chr1	156,785,541	156,851,642	CN Gain
PTGS2	chr1	186,640,943	186,649,559	CN Gain
MDM4	chr1	204,485,506	204,527,248	CN Gain
TGFB2	chr1	218,518,675	218,617,961	CN Gain
RHOU	chr1	228,780,393	228,882,416	CN Gain
AKT3	chr1	243,651,534	244,006,886	CN Gain
TPMT	chr6	18,128,544	18,155,396	CN Gain
E2F3	chr6	20,402,136	20,493,945	CN Gain
LTA	chr6	31,539,875	31,542,100	CN Gain
HLA-DRB1	chr6	32,546,546	32,557,613	CN Gain
VEGFA	chr6	43,737,945	43,754,223	CN Gain
GRB10	chr7	50,657,759	50,861,159	CN Gain
KRAS	chr12	25,357,722	25,403,865	CN Gain
PIP4K2C	chr12	57,984,941	57,997,211	CN Gain

AGAP2	chr12	58,118,075	58,135,944	CN Gain
HMGGA2	chr12	66,218,239	66,360,071	CN Gain
CCT2	chr12	69,979,207	69,995,357	CN Gain
GYS2	chr12	21,689,122	21,757,781	CN Gain
GLI1	chr12	57,853,917	57,866,047	CN Gain
DDIT3	chr12	57,910,370	57,914,300	CN Gain
INSR	chr19	7,112,265	7,294,011	CN Gain
MUC16	chr19	8,959,519	9,092,018	CN Gain
DNMT1	chr19	10,244,021	10,305,755	CN Gain
BCL9	chr1	147,013,270	147,098,020	CN Gain
ARNT	chr1	150,782,180	150,849,244	CN Gain
MLLT11	chr1	151,032,150	151,040,973	CN Gain
TPM3	chr1	154,127,779	154,164,611	CN Gain
MUC1	chr1	155,158,299	155,162,706	CN Gain
PRCC	chr1	156,737,273	156,770,609	CN Gain
INSRR	chr1	156,810,664	156,828,712	CN Gain
FCRL4	chr1	157,543,538	157,567,870	CN Gain
SDHC	chr1	161,284,165	161,334,535	CN Gain
FCGR2B	chr1	161,632,904	161,648,444	CN Gain
PBX1	chr1	164,528,596	164,821,060	CN Gain
PRRX1	chr1	170,633,312	170,708,541	CN Gain
TNN	chr1	175,036,993	175,117,202	CN Gain
RFWD2	chr1	175,913,961	176,176,380	CN Gain
ABL2	chr1	179,068,461	179,198,819	CN Gain
RNASEL	chr1	182,542,768	182,558,394	CN Gain
LAMC2	chr1	183,155,173	183,214,262	CN Gain
TPR	chr1	186,280,785	186,344,457	CN Gain
CDC73	chr1	193,091,087	193,223,942	CN Gain
BTG2	chr1	203,274,663	203,278,729	CN Gain
ELK4	chr1	205,577,070	205,602,000	CN Gain
SLC45A3	chr1	205,626,980	205,649,630	CN Gain
ATF3	chr1	212,738,675	212,794,119	CN Gain
CDC42BPA	chr1	227,177,565	227,505,826	CN Gain
OBSCN	chr1	228,395,830	228,566,575	CN Gain
KIAA1804	chr1	233,463,513	233,520,894	CN Gain
FH	chr1	241,660,856	241,683,085	CN Gain
NLRP3	chr1	247,579,457	247,612,406	CN Gain
DOCK3	chr3	50,712,671	51,421,629	CN Gain
PSMD6	chr3	63,996,224	64,009,686	CN Gain
IRF4	chr6	391,738	411,443	CN Gain
DEK	chr6	18,224,399	18,264,799	CN Gain
HIST1H4I	chr6	27,107,087	27,107,457	CN Gain
TRIM27	chr6	28,870,778	28,891,768	CN Gain
IER3	chr6	30,710,975	30,712,327	CN Gain
HSPA1A	chr6	31,783,290	31,785,719	CN Gain
NOTCH4	chr6	32,162,619	32,191,844	CN Gain

ITPR3	chr6	33,589,155	33,664,348	CN Gain
HMGA1	chr6	34,204,576	34,214,008	CN Gain
FANCE	chr6	35,420,137	35,434,881	CN Gain
SRSF3	chr6	36,562,089	36,572,244	CN Gain
CDKN1A	chr6	36,644,236	36,655,116	CN Gain
PIM1	chr6	37,137,921	37,143,204	CN Gain
TFEB	chr6	41,651,715	41,703,997	CN Gain
CCND3	chr6	41,902,670	42,016,632	CN Gain
HSP90AB1	chr6	44,213,902	44,221,625	CN Gain
PKHD1	chr6	51,480,144	51,952,423	CN Gain
KAT6A	chr8	41,786,996	41,909,544	CN Gain
HOOK3	chr8	42,752,032	42,885,682	CN Gain
CLP1	chr11	57,425,215	57,429,337	CN Gain
CREBBP	chr16	3,775,055	3,930,121	CN Gain
MLLT1	chr19	6,210,391	6,279,959	CN Gain
KEAP1	chr19	10,596,795	10,614,054	CN Gain
SMARCA4	chr19	11,071,597	11,172,958	CN Gain
JUNB	chr19	12,902,309	12,904,125	CN Gain
ZSWIM4	chr19	13,906,273	13,943,044	CN Gain
CC2D1A	chr19	14,016,955	14,041,693	CN Gain
KLK3	chr19	51,358,170	51,364,020	CN Gain
KLK2	chr19	51,376,688	51,383,823	CN Gain
IKBKB	chr8	42,128,819	42,190,171	CN Gain, CN Loss
EGFR	chr7	55,086,724	55,275,031	CN Loss
CDKN2B	chr9	22,002,901	22,009,312	CN Loss
STK11	chr19	1,205,797	1,228,434	CN Loss
HRAS	chr11	532,241	535,550	CN Loss
ERC1	chr12	1,100,373	1,605,099	CN Loss
LPP	chr3	187,871,660	188,608,460	CN Loss
EPHA5	chr4	66,185,280	66,536,213	CN Loss
FRAS1	chr4	78,978,723	79,465,423	CN Loss
SIRT1	chr10	69,644,426	69,678,147	CN Loss
FSTL3	chr19	676,388	683,392	CN Loss
CIC	chr19	42,772,688	42,799,948	CN Loss
ARHGAP8	chr22	45,148,437	45,258,664	CN Loss
NF1	chr17	29,421,944	29,704,695	CN Loss, Homozygous Copy Loss, LOH
TP53	chr17	7,571,719	7,590,868	CN Loss, LOH
ERBB2	chr17	37,844,336	37,884,915	CN Loss, LOH
BRCA1	chr17	41,196,311	41,277,500	CN Loss, LOH
ABCC3	chr17	48,712,217	48,769,063	CN Loss, LOH
PDGFRA	chr4	55,095,263	55,164,412	CN Loss, LOH
KIT	chr4	55,524,094	55,606,881	CN Loss, LOH
KDR	chr4	55,944,425	55,991,762	CN Loss, LOH
NFKB1	chr4	103,422,485	103,538,459	CN Loss, LOH
TET2	chr4	106,067,031	106,200,960	CN Loss, LOH
INPP4B	chr4	142,949,181	143,767,604	CN Loss, LOH

FAT1	chr4	187,508,936	187,644,987	CN Loss, LOH
CSMD1	chr8	2,792,874	4,852,328	CN Loss, LOH
NAT1	chr8	18,027,970	18,081,198	CN Loss, LOH
NAT2	chr8	18,248,754	18,258,723	CN Loss, LOH
FGFR1	chr8	38,268,655	38,326,352	CN Loss, LOH
GSTP1	chr11	67,351,065	67,354,124	CN Loss, LOH
C11orf30	chr11	76,156,068	76,263,943	CN Loss, LOH
TYR	chr11	88,911,039	89,028,927	CN Loss, LOH
PGR	chr11	100,900,354	101,000,544	CN Loss, LOH
ATM	chr11	108,093,558	108,239,826	CN Loss, LOH
CBL	chr11	119,076,985	119,178,859	CN Loss, LOH
CHEK1	chr11	125,495,030	125,546,150	CN Loss, LOH
ETS1	chr11	128,328,655	128,457,453	CN Loss, LOH
FLI1	chr11	128,556,429	128,683,162	CN Loss, LOH
TP53AIP1	chr11	128,804,626	128,813,294	CN Loss, LOH
BTG1	chr12	92,534,053	92,539,673	CN Loss, LOH
BCL7A	chr12	122,459,791	122,499,950	CN Loss, LOH
BMP4	chr14	54,416,454	54,423,554	CN Loss, LOH
HIF1A	chr14	62,162,118	62,214,977	CN Loss, LOH
ESR2	chr14	64,693,429	64,805,268	CN Loss, LOH
RAB15	chr14	65,412,531	65,438,875	CN Loss, LOH
RAD51B	chr14	68,286,495	69,062,738	CN Loss, LOH
XRCC3	chr14	104,163,953	104,181,823	CN Loss, LOH
AKT1	chr14	105,235,686	105,262,080	CN Loss, LOH
CDH1	chr16	68,771,194	68,869,444	CN Loss, LOH
PHLPP2	chr16	71,678,828	71,758,604	CN Loss, LOH
WWOX	chr16	78,133,309	79,246,564	CN Loss, LOH
MC1R	chr16	89,984,286	89,987,385	CN Loss, LOH
CRK	chr17	1,324,646	1,359,561	CN Loss, LOH
MAP2K4	chr17	11,924,134	12,047,148	CN Loss, LOH
FLOT2	chr17	27,206,356	27,224,715	CN Loss, LOH
PIP4K2B	chr17	36,921,943	36,956,158	CN Loss, LOH
RARA	chr17	38,465,422	38,513,895	CN Loss, LOH
HOXB3	chr17	46,626,231	46,651,810	CN Loss, LOH
AXIN2	chr17	63,524,682	63,557,740	CN Loss, LOH
RPTOR	chr17	78,518,624	78,940,173	CN Loss, LOH
SMAD7	chr18	46,446,222	46,477,081	CN Loss, LOH
SMAD4	chr18	48,556,582	48,611,411	CN Loss, LOH
PHLPP1	chr18	60,382,671	60,647,676	CN Loss, LOH
COMT	chr22	19,929,262	19,957,498	CN Loss, LOH
CRKL	chr22	21,271,713	21,308,037	CN Loss, LOH
PPM1F	chr22	22,273,791	22,307,250	CN Loss, LOH
GSTT1	chr22	24,376,132	24,384,311	CN Loss, LOH
PLA2G6	chr22	38,507,501	38,577,836	CN Loss, LOH
FIP1L1	chr4	54,243,819	54,326,103	CN Loss, LOH
CHIC2	chr4	54,875,957	54,930,815	CN Loss, LOH

RCHY1	chr4	76,404,246	76,439,640	CN Loss, LOH
AFF1	chr4	87,856,153	88,062,206	CN Loss, LOH
RAP1GDS1	chr4	99,182,526	99,365,012	CN Loss, LOH
EIF4E	chr4	99,799,606	99,851,786	CN Loss, LOH
IL2	chr4	123,372,625	123,377,650	CN Loss, LOH
HSPA4L	chr4	128,703,452	128,754,526	CN Loss, LOH
FBXW7	chr4	153,242,409	153,456,393	CN Loss, LOH
DCHS2	chr4	155,155,526	155,412,877	CN Loss, LOH
GLRB	chr4	157,997,276	158,093,242	CN Loss, LOH
VEGFC	chr4	177,604,684	177,713,899	CN Loss, LOH
CASP3	chr4	185,548,849	185,570,629	CN Loss, LOH
MFHAS1	chr8	8,641,998	8,751,131	CN Loss, LOH
GATA4	chr8	11,561,716	11,617,509	CN Loss, LOH
CTSB	chr8	11,700,033	11,725,646	CN Loss, LOH
MSR1	chr8	15,965,386	16,050,300	CN Loss, LOH
SLC7A2	chr8	17,354,596	17,428,077	CN Loss, LOH
PCM1	chr8	17,780,365	17,887,457	CN Loss, LOH
ASAH1	chr8	17,913,924	17,942,507	CN Loss, LOH
PSD3	chr8	18,384,812	18,871,196	CN Loss, LOH
LPL	chr8	19,796,581	19,824,770	CN Loss, LOH
POLR3D	chr8	22,102,618	22,108,680	CN Loss, LOH
PPP3CC	chr8	22,298,482	22,398,657	CN Loss, LOH
TNFRSF10B	chr8	22,877,647	22,926,700	CN Loss, LOH
DOCK5	chr8	25,042,286	25,270,619	CN Loss, LOH
PTK2B	chr8	27,168,998	27,316,908	CN Loss, LOH
CCDC25	chr8	27,590,832	27,630,170	CN Loss, LOH
SCARA5	chr8	27,727,398	27,850,369	CN Loss, LOH
WRN	chr8	30,890,777	31,031,277	CN Loss, LOH
WHSC1L1	chr8	38,132,560	38,239,790	CN Loss, LOH
SDHAF2	chr11	61,197,596	61,214,239	CN Loss, LOH
RCOR2	chr11	63,678,692	63,684,316	CN Loss, LOH
MACROD1	chr11	63,766,029	63,933,585	CN Loss, LOH
MALAT1	chr11	65,265,232	65,273,983	CN Loss, LOH
GAL3ST3	chr11	65,808,235	65,816,651	CN Loss, LOH
NUMA1	chr11	71,713,909	71,791,739	CN Loss, LOH
LRRC32	chr11	76,368,567	76,381,791	CN Loss, LOH
PAK1	chr11	77,033,059	77,185,108	CN Loss, LOH
GAB2	chr11	77,926,335	78,128,868	CN Loss, LOH
PICALM	chr11	85,668,213	85,780,923	CN Loss, LOH
SESN3	chr11	94,898,676	94,965,705	CN Loss, LOH
MAML2	chr11	95,709,756	96,076,344	CN Loss, LOH
BIRC3	chr11	102,188,180	102,210,135	CN Loss, LOH
DDX10	chr11	108,535,751	108,811,657	CN Loss, LOH
POU2AF1	chr11	111,222,980	111,250,157	CN Loss, LOH
SDHD	chr11	111,957,547	111,966,525	CN Loss, LOH
ZBTB16	chr11	113,930,430	114,121,397	CN Loss, LOH

PAFAH1B2	chr11	117,014,999	117,048,889	CN Loss, LOH
PCSK7	chr11	117,075,786	117,103,241	CN Loss, LOH
DDX6	chr11	118,618,472	118,661,972	CN Loss, LOH
H2AFX	chr11	118,964,584	118,966,177	CN Loss, LOH
ARHGEF12	chr11	120,207,617	120,360,645	CN Loss, LOH
SORL1	chr11	121,322,911	121,504,471	CN Loss, LOH
ZMYM2	chr13	20,532,809	20,665,984	CN Loss, LOH
KTN1	chr14	56,046,924	56,151,302	CN Loss, LOH
GPHN	chr14	66,974,124	67,648,525	CN Loss, LOH
MLH3	chr14	75,480,466	75,518,235	CN Loss, LOH
TSHR	chr14	81,421,868	81,612,646	CN Loss, LOH
TRIP11	chr14	92,434,242	92,506,403	CN Loss, LOH
GOLGA5	chr14	93,260,575	93,306,306	CN Loss, LOH
DICER1	chr14	95,552,564	95,624,347	CN Loss, LOH
TCL6	chr14	96,117,514	96,139,789	CN Loss, LOH
TCL1A	chr14	96,176,303	96,180,533	CN Loss, LOH
BCL11B	chr14	99,635,624	99,738,050	CN Loss, LOH
HSP90AA1	chr14	102,547,074	102,606,086	CN Loss, LOH
SIAH1	chr16	48,394,445	48,419,229	CN Loss, LOH
CYLD	chr16	50,775,960	50,835,846	CN Loss, LOH
HERPUD1	chr16	56,966,001	56,977,793	CN Loss, LOH
CDH11	chr16	64,980,682	65,155,919	CN Loss, LOH
CBFB	chr16	67,063,049	67,134,958	CN Loss, LOH
NQO1	chr16	69,743,303	69,760,571	CN Loss, LOH
BCAR1	chr16	75,262,927	75,301,951	CN Loss, LOH
ADAMTS18	chr16	77,316,024	77,469,011	CN Loss, LOH
MAF	chr16	79,627,744	79,634,622	CN Loss, LOH
CDH13	chr16	82,660,398	83,830,215	CN Loss, LOH
CRISPLD2	chr16	84,853,586	84,943,116	CN Loss, LOH
SLC7A5	chr16	87,863,628	87,903,100	CN Loss, LOH
CBFA2T3	chr16	88,941,262	89,043,504	CN Loss, LOH
ANKRD11	chr16	89,334,028	89,556,969	CN Loss, LOH
FANCA	chr16	89,803,958	89,883,065	CN Loss, LOH
GAS8	chr16	90,086,036	90,111,379	CN Loss, LOH
HIC1	chr17	1,958,392	1,962,981	CN Loss, LOH
MNT	chr17	2,287,353	2,304,258	CN Loss, LOH
USP6	chr17	5,019,732	5,078,326	CN Loss, LOH
RABEP1	chr17	5,185,557	5,289,659	CN Loss, LOH
PER1	chr17	8,043,787	8,055,753	CN Loss, LOH
GAS7	chr17	9,813,925	10,101,868	CN Loss, LOH
ELAC2	chr17	12,894,928	12,921,381	CN Loss, LOH
FLCN	chr17	17,115,526	17,140,502	CN Loss, LOH
SPECC1	chr17	19,912,648	20,218,072	CN Loss, LOH
PIGS	chr17	26,880,405	26,898,887	CN Loss, LOH
SUZ12	chr17	30,264,043	30,328,057	CN Loss, LOH
TAF15	chr17	34,136,458	34,174,246	CN Loss, LOH

HNF1B	chr17	36,046,433	36,105,069	CN Loss, LOH
MLLT6	chr17	36,861,872	36,886,056	CN Loss, LOH
LASP1	chr17	37,026,111	37,078,023	CN Loss, LOH
MED1	chr17	37,560,537	37,607,527	CN Loss, LOH
CDK12	chr17	37,617,763	37,690,818	CN Loss, LOH
THRA	chr17	38,218,445	38,250,120	CN Loss, LOH
TOP2A	chr17	38,544,772	38,574,202	CN Loss, LOH
IGFBP4	chr17	38,599,675	38,613,982	CN Loss, LOH
KCNH4	chr17	40,308,909	40,333,296	CN Loss, LOH
STAT5A	chr17	40,439,564	40,463,960	CN Loss, LOH
STAT3	chr17	40,465,342	40,540,513	CN Loss, LOH
ETV4	chr17	41,605,210	41,623,800	CN Loss, LOH
COL1A1	chr17	48,261,456	48,279,000	CN Loss, LOH
NME1	chr17	49,230,919	49,239,450	CN Loss, LOH
HLF	chr17	53,342,320	53,402,426	CN Loss, LOH
MSI2	chr17	55,333,930	55,757,299	CN Loss, LOH
CLTC	chr17	57,697,049	57,774,317	CN Loss, LOH
RPS6KB1	chr17	57,970,406	58,027,786	CN Loss, LOH
PPM1D	chr17	58,677,543	58,743,640	CN Loss, LOH
BRIP1	chr17	59,756,546	59,940,920	CN Loss, LOH
CD79B	chr17	62,006,097	62,009,704	CN Loss, LOH
DDX5	chr17	62,494,373	62,502,484	CN Loss, LOH
PRKAR1A	chr17	66,409,763	66,547,457	CN Loss, LOH
TK1	chr17	76,170,159	76,183,285	CN Loss, LOH
CANT1	chr17	76,987,797	77,005,899	CN Loss, LOH
RNF213	chr17	78,234,659	78,372,581	CN Loss, LOH
ASPSCR1	chr17	79,935,425	79,975,282	CN Loss, LOH
CSNK1D	chr17	80,200,536	80,231,618	CN Loss, LOH
ZNF521	chr18	22,641,887	22,932,214	CN Loss, LOH
SS18	chr18	23,596,216	23,670,611	CN Loss, LOH
CDH2	chr18	25,530,929	25,757,445	CN Loss, LOH
NOL4	chr18	31,431,063	31,803,515	CN Loss, LOH
PIK3C3	chr18	39,535,198	39,661,446	CN Loss, LOH
DCC	chr18	49,866,541	51,062,273	CN Loss, LOH
MALT1	chr18	56,338,617	56,417,371	CN Loss, LOH
PMAIP1	chr18	57,567,191	57,571,538	CN Loss, LOH
BCL2	chr18	60,790,578	60,986,613	CN Loss, LOH
KDSR	chr18	60,994,970	61,034,506	CN Loss, LOH
SERPINB5	chr18	61,144,143	61,172,318	CN Loss, LOH
SERPINB2	chr18	61,554,938	61,571,124	CN Loss, LOH
CD226	chr18	67,530,192	67,624,412	CN Loss, LOH
CTDP1	chr18	77,439,800	77,514,510	CN Loss, LOH
CLTCL1	chr22	19,166,986	19,279,239	CN Loss, LOH
GNB1L	chr22	19,775,933	19,842,462	CN Loss, LOH
BCR	chr22	23,522,551	23,660,224	CN Loss, LOH
SMARCB1	chr22	24,129,149	24,176,705	CN Loss, LOH

PATZ1	chr22	31,721,789	31,742,249	CN Loss, LOH
TIMP3	chr22	33,196,801	33,259,028	CN Loss, LOH
MYH9	chr22	36,677,322	36,784,112	CN Loss, LOH
CSF2RB	chr22	37,309,674	37,336,479	CN Loss, LOH
PDGFB	chr22	39,619,684	39,640,957	CN Loss, LOH
CCND1	chr11	69,455,872	69,469,242	High Copy Gain
YES1	chr18	721,591	812,327	High Copy Gain
FGF4	chr11	69,587,796	69,590,171	High Copy Gain
CTTN	chr11	70,244,611	70,282,690	High Copy Gain
TYMS	chr18	657,603	673,499	High Copy Gain
SF1	chr11	64,532,075	64,546,316	High Copy Gain, LOH
MEN1	chr11	64,570,985	64,578,766	High Copy Gain, LOH
IGFBP1	chr7	45,927,958	45,933,267	LOH
IGFBP3	chr7	45,951,843	45,960,871	LOH
VDR	chr12	48,235,319	48,298,814	LOH
WNT1	chr12	49,372,235	49,376,396	LOH
ATF1	chr12	51,157,788	51,214,943	LOH
HNF1A	chr12	121,416,548	121,440,314	LOH
LAMA1	chr18	6,941,742	7,117,813	LOH
NF2	chr22	29,999,544	30,094,589	LOH
MKL1	chr22	40,806,284	41,032,723	LOH
KDM5C	chrX	53,220,502	53,254,604	LOH

Supplementary Table 3

Table of CNVs in cancer-causing genes as identified through the COSMIC database for each of the seven cases used in this study

1. 64 year old male with primary lung cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
EGFR	Gain	15
EGFR	Gain	14
CDK12	Gain	3
SEPT5	Gain	3
BAP1	Loss	1
MYC	Loss	1
NOTCH1	Loss	1
2. 84 year old female with primary breast cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
MEN1	Gain	7
CCND1	Gain	6
BCL9, ARNT, MLLT11, TPM3, MUC1, LMNA, PRCC, NTRK1, FCRL4, SDHC, FCGR2B, PBX1, PRRX1, ABL2, TPR, CDC73, PTPRC, MDM4, ELK4, SLC45A3, H3F3A	Gain	3
HOOK3	Gain	3
WIF1, HMGA2	Gain	3
DDIT3, CDK4	Gain	3
ETNK1, KRAS, PPFIBP1	Gain	3
FH	Gain	3
CREBBP	Gain	3
CLP1	Gain	3
MDM2, PTPRB	Gain	3
KAT6A, IKBKB	Gain	3
MLLT1, DNM2, SMARCA4, CALR	Gain	3
IKZF1	Gain	3
DAXX, HMGA1, FANCE, SRSF3, PIM1, TFEB, CCND3, HSP90AB1, NFKBIE	Gain	3
IRF4, DEK, HIST1H3B, HIST1H4I, TRIM27, HLA-A	Gain	3
KLK2	Gain	3

FSTL3	Loss	1
BCL7A, CLIP1, ZCCHC8, POLE	Loss	1
STK11	Loss	1
NF1, SUZ12, TAF15, MLLT6, LASP1, CDK12, ERBB2, RARA, SMARCE1, STAT5B, STAT3, BRCA1, ETV4, SPOP, COL1A1, HLF, MSI2, RNF43, CLTC, BRIP1, CD79B, DDX5, AXIN2, PRKAR1A, H3F3B, SRSF2, SEPT9, CANT1, RNF213, ASPSCR1	Loss	1
YWHAE, USP6, RABEP1, TP53, PER1, GAS7, MAP2K4, NCOR1, FLCN, SPECC1, NF1	Loss	1
CYLD, HERPUD1, CDH11, CBF3, CDH1, MAF, CBFA2T3, FANCA	Loss	1
CIC	Loss	1
KTN1, MAX, GPHN, RAD51B, TSHR, TRIP11, GOLGA5, DICER1, TCL6, TCL1A, BCL11B, HSP90AA1, AKT1	Loss	1
CLTCL1, SEPT5, BCR, SMARCB1	Loss	1
ZNF521, SS18, SETBP1, SMAD4, MALT1, BCL2, KDSR	Loss	1
ERC1	Loss	1
BTG1	Loss	1
ARID2	Loss	1
PICALM, MAML2, BIRC3, ATM, DDX10, POU2AF1, SDHD, ZBTB16, PAFAH1B2, PCSK7, KMT2A, DDX6, CBL, ARHGEF12, FLI1, KCNJ5	Loss	1
NUMA1	Loss	1
MALAT1	Loss	1
SDHAF2	Loss	1
HRAS	Loss	1
IKBKB	Loss	1
PCM1, WRN, NRG1, WHSC1L1, FGFR1	Loss	1
EGFR	Loss	1
AFF1, RAP1GDS1, TET2, IL2, FBXW7	Loss	1
FIP1L1, CHIC2, PDGFRA, KIT, KDR	Loss	1
LPP	Loss	1
MYH9, PDGFB	Loss	1
NF1	Loss	0
3. 70 year old female with primary pancreatic cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State

HMGA1	Gain	3
CBL	Gain	3
FANCA	Gain	2.5
TAF15, MLLT6, LASP1, CDK12	Gain	2.5
WHSC1	Gain	2.5
PTEN	Loss	1.5
CBFA2T3	Loss	1.5
HRAS	Loss	1.5
PRDM16	Loss	1.5
FOXO3	Loss	1.5
POU5F1	Loss	1.5
MITF	Loss	1.5
SEPT9	Loss	1.5
ASPSCR1	Loss	1.5
FSTL3, STK11, TCF3	Loss	1.5
AKT2, CD79A	Loss	1.5
MUC1	Loss	1.5
TSC2, TRAF7	Loss	1.5
AKT1	Loss	1
ERBB2	Loss	1
RARA	Loss	1
TNFRSF14	Loss	1
CDK4	Loss	1
DDIT3	Loss	1
ELN	Loss	1
HOXA9, HOXA11, HOXA13	Loss	1
HSP90AB1, NFKBIE	Loss	1
PDGFRB	Loss	1
NCKIPSD	Loss	1
HOXD13, HOXD11	Loss	1
REL	Loss	1
LMNA	Loss	1
CIC	Loss	1
4. 40 year old female with primary colon cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
FLT3, BRCA2	Gain	2.5
MAFB, TOP1, PLCG1, SDC4, NFATC2, GNAS, SS18L1	Gain	2.5

PRDM1, FOXO3, ROS1, GOPC, RSPO3, PTPRK, MYB, TNFAIP3, ECT2L, ESR1, ARID1B, EZR	Gain	2.5
FGFR1OP, MLLT4	Gain	2.5
MNX1	Gain	2.5
ASXL1	Gain	2.5
PMS1, SF3B1, CASP8, CREB1, IDH1	Gain	2.5
BRCA2, LHFP	Gain	2.5
NIN	Loss	1.5
ZNF521, SS18, SETBP1, SMAD4, MALT1, BCL2, KDSR	Loss	1.5
RAD51B	Loss	1.5
RAD51B	Loss	1.5
KTN1, MAX, GPHN	Loss	1.5
PDE4DIP	Loss	1.5
CCNB1IP1, NKX2-1, FOXA1	Loss	1.5
TET1, PRF1, KAT6B, NUTM2B, BMPR1A, NUTM2A, PTEN, FAS, TLX1, NFKB2, SUFU, NT5C2	Loss	1.5
NCOA4, CCDC6	Loss	1.5
RET	Loss	1.5
PCM1, WRN, NRG1	Loss	1.5
RHOH, PHOX2B	Loss	1.5
CLTCL1, SEPT5, BCR, SMARCB1, MN1, CHEK2, EWSR1, NF2, MYH9, PDGFB	Loss	1.5
5. 62 year old female with primary renal cell cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
TNFRSF14, PRDM16	Loss	1.5
NTRK1	Loss	1.5
RECQL4	Loss	1.5
BRD3, NOTCH1	Loss	1.5
HRAS	Loss	1.5
POLE	Loss	1.5
TSC2	Loss	1.5
CBFA2T3	Loss	1.5
ASPSCR1	Loss	1.5
FSTL3	Loss	1.5
TCF3	Loss	1.5
FGFR3	Loss	1
PTEN	Loss	1

TRAF7	Loss	1
PER1	Loss	1
STK11	Loss	1
6. 57 year old female with primary rectal cancer		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
YWHAE	Gain	3
FANCA	Gain	2.5
AXIN1	Loss	1.5
TCF3	Loss	1.5
FSTL3	Loss	1.5
ASPSCR1	Loss	1.5
COL1A1	Loss	1.5
TNFRSF14, PRDM16	Loss	1.5
NOTCH1	Loss	1.5
CEBPA	Loss	1.5
TSC2, TRAF7	Loss	1
AKT1	Loss	1
FGFR3	Loss	1
PER1	Loss	1
RARA	Loss	1
STAT5B, STAT3	Loss	1
CDK4	Loss	1
CCND1	Loss	1
HRAS	Loss	1
STK11	Loss	1
7. 54 year old female with cirrhosis and non-malignant ascites (control)		
Cancer-causing genes with CNVs (as identified by COSMIC database)	CNV type	CN State
CDK4	Loss	1
STK11	Loss	1

Supplementary Fig.1

Quantitative PCR methodology was used to measure copy number gain in the EGFR locus by the delta-delta CT method for Patient 1. The RnaseP gene was used as a calibrator and a normal male sample (Ref103, Affymetrix, P/N 900421) was used as a reference. Reactions were set up using VeriQuest SYBR Green qPCR mastermix (Affymetrix, P/N 75600) following manufacturer's protocol. Gains were confirmed independently with two sets of primers. Genomic dosage is represented below as an average of both sets of primers which are shown below.

Name	Fwd Seq	Rev Start	Rev Stop	Rev Length	Rev Tm	Rev %GC	Name	Rev Seq
LM-EGFR_3188F	ACAGCTTCTTGACGCGATACAG	3262	3241	22	58	55	LM-EGFR_3188R	GGAGGAAGGTGTCGTCTATGCT
LM-EGFR_3187F	GACAGCTTCTTGACGCGATACA	3262	3241	22	58	55	LM-EGFR_3187R	GGAGGAAGGTGTCGTCTATGCT

