

Novel gene targets detected by genomic profiling in a consecutive series of 126 adults with acute lymphoblastic leukemia

Setareh Safavi,¹ Markus Hansson,² Karin Karlsson,² Andrea Biloglav,¹ Bertil Johansson,^{1,3} and Kajsa Paulsson¹

¹Division of Clinical Genetics, Department of Laboratory Medicine, Lund University; ²Division of Hematology, Skåne University Hospital, Lund University; and ³Department of Clinical Genetics, University and Regional Laboratories, Region Skåne, Lund, Sweden

©2014 Ferrata Storti Foundation. This is an open-access paper. doi:10.3324/haematol.2014.112912

Manuscript received on July 1, 2014. Manuscript accepted September 24, 2014.

Correspondence: setareh.safavi@med.lu.se or kajsa.paulsson@med.lu.se

Supplementary Table 1. Clinical, immunophenotypic and genetic data for 205 adult acute lymphoblastic leukemia patients

Case No.	Age	Sex	Immuno-phenotype	OS	Karyotype	t(9;22)(q34;q11)	der(11)q23	t(1;19)(q23;p13)	51-67 chr (HeH)	31-39 chr (HoL)	llumina platform
1	49	Male	B-precursor	1	46,XY,del(8)(p21),t(9;22)(q34;q11),der(19)t(8;19)(q11;p13)	BCR/ABL1					HumanOmni1-Quad BeadChip platform
2	29	Male	B-precursor	17	46,XY,t(9;22)(q34;q11)	BCR/ABL1					HumanOmni5-Quad BeadChip platform
3	46	Male	B-precursor	2	45,XY,-9,i(9)(q10),der(12)t(12;14)(p12;q11),-14,i(17)(q10),-18,der(20)t(18;20)(q11;p11),+21,+mar/45,XY,-9,i(9)(q10),der(12),-14,-15,i(17)(q10),-20,+21,+2mar						HumanOmni1-Quad BeadChip platform
4*	59	Male	B-precursor	45	46,XY,del(11)(q23)						HumanOmni1-Quad BeadChip platform
5	37	Female	B-precursor	256+	47,XX,t(14;19)(q32;q13),+21						HumanOmni1-Quad BeadChip platform
6	22	Male	B-precursor	244+	46,XY,del(9)(p21)						HumanOmni1-Quad BeadChip platform
7	31	Male	B-precursor	76	46,XY						HumanOmni1-Quad BeadChip platform
8	27	Male	B-precursor	19	Failure						HumanOmni1-Quad BeadChip platform
9	56	Female	B-precursor	1	46,XX					HoL (based on SNP)	HumanOmni1-Quad BeadChip platform
10	52	Male	B-precursor	6	Failure					HoL (based on SNP)	HumanOmni1-Quad BeadChip platform
11*	61	Female	B-precursor	10	46,XX,t(11;19)(q23;p13)		MLL/MLLT1				HumanOmni5-Quad BeadChip platform

12	49	Male	B-precursor	12	45,XY,der(7;9)(q10;q10)t(9;22)(q34;q11),der(22)t(9;22)	BCR/ABL1		HumanOmni5-Quad BeadChip platform
13	20	Female	B-precursor	9	46,XX,t(4;11)(q21;q23),i(7)(q10)		MLL/AFF1	HumanOmni1-Quad BeadChip platform
14*	54	Male	B-precursor	15	46,XY,der(3)t(3;9)(p21;p22),der(9)t(3;9)t(9;22)(q34;q11),der(22)t(9;22)	BCR/ABL1		HumanOmni5-Quad BeadChip platform
15	65	Female	B-precursor	6	48,XX,+X,-2,add(6)(q?),der(9)t(2;9)(p14;p22),add(10)(q24),del(11)(q14),add(12)(q24),del(13)(q31),-15,add(17)(p11),+3mar			HumanOmniExpress BeadChip platform
16	25	Male	B-precursor	184+	45,XY,?dic(9;20)(p1?;q1?)			HumanOmniExpress BeadChip platform
17	48	Male	B-precursor	17	46,XY		HoL (based on SNP)	HumanOmni5-Quad BeadChip platform
18	56	Female	B-precursor	5	47,XX,+X,t(4;11)(q21;q23)		MLL/AFF1	HumanOmni5-Quad BeadChip platform
19	62	Male	B-precursor	2	46,XY,t(9;22)(q34;q11)	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
20	62	Female	B-precursor	1	46,XX,t(4;11)(q21;q23)		MLL/AFF1	HumanOmni5-Quad BeadChip platform
21	54	Male	B-precursor	20	46,XY			HumanOmni5-Quad BeadChip platform
22	60	Female	B-precursor	10	45,XX,t(7;14)(q36;q11),der(19)t(19;20)(p13;?),-20/45,idem,i(17)(q10)/46,idem,+X,i(17)(q10)			HumanOmni5-Quad BeadChip platform
23*	35	Female	B-precursor	14	52,XX,+X,add(1)(p36),+4,t(9;22)(q34;q11),+14,+20,+21,+der(22)t(9;22)	BCR/ABL1 (P190)	HeH	HumanOmni5-Quad BeadChip platform
24	26	Female	B-precursor	150+	55,XX,+X,+4,+5,+6,t(9;22)(q34;q11),+14,+14,+21,+21,+der(22)t(9;22)	BCR/ABL1 (P190)	HeH	HumanOmni1-Quad BeadChip platform

25	61	Female	B-precursor	7	Failure		MLL/AFF1		HumanOmni5-Quad BeadChip platform
26	44	Female	B-precursor	16	45,XX,-9,t(9;22)(q34;q11),inc	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
27	50	Female	B-precursor	28	46,XX,t(9;22)(q34;q11)/46,idem, del(20)(q11)	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
28	85	Male	B-precursor	2	46,XY			HoL (based on SNP)	HumanOmni5-Quad BeadChip platform
29*	52	Female	B-precursor	132 +	46,XX,t(1;19)(q23;p13)		TCF3/PBX 1		HumanOmniExpress BeadChip platform
30	47	Male	B-precursor	51	Failure			HeH (based on SNP)	HumanOmni5-Quad BeadChip platform
31*	73	Female	B-precursor	129 +	45,XX,dic(7;9)(p11;p13)				HumanOmni5-Quad BeadChip platform
32	27	Male	B-precursor	129 +	46,XY	BCR/ABL1 (P190)			HumanOmniExpress BeadChip platform
33	27	Female	B-precursor	128 +	46-47,X,-X,+5,-8,i(9)(q10),-18,+3mar				HumanOmni5-Quad BeadChip platform
34	20	Female	B-precursor	60	57,XX,+4,+?8,+?10,+14,+?15,+18,+21,+21,+3mar			HeH	HumanOmni5-Quad BeadChip platform
35	24	Male	B-precursor	7	46,XY,t(2;10)(p25;p13)/46,idem, del(16)(q13)				HumanOmni5-Quad BeadChip platform
36	41	Female	B-precursor	25	47,XX,+21				HumanOmni5-Quad BeadChip platform
37	25	Male	B-precursor	22	??,X?,t(9;22)(q34;q11) [based on FISH]	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform

38	70	Male	B-precursor	4	46,XY		HeH (based on SNP)	HumanOmni5-Quad BeadChip platform
39	70	Female	B-precursor	2	79-80,XXX,+1,+2,-4,-8,-9,+11,+12,-16,inc		HoL (based on SNP)	HumanOmni1-Quad BeadChip platform
40	20	Male	B-precursor	22	??,X?,t(9;22)(q34;q11) [based on FISH]	BCR/ABL1		HumanOmni5-Quad BeadChip platform
41	61	Female	B-precursor	17	46,XX,t(9;22)(q34;q11)	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
42	58	Male	B-precursor	8	??,X?,t(9;22)(q34;q11) [based on FISH]	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
43	59	Male	B-precursor	18	47,XY,?add(3)(q27),t(9;22)(q34;q11),?del(10)(q22),der(19)t(12;19)(q13;p11),+der(?)t(?)11)(?;q13)	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
44	79	Female	B-precursor	7	46-47,XX,+2,t(9;22)(q34;q11)	BCR/ABL1		HumanOmni5-Quad BeadChip platform
45	55	Female	B-precursor	34	Failure			HumanOmni5-Quad BeadChip platform
46	22	Female	B-precursor	84+	46,X?,inv(9)(p11q12)c,+mar,inc			HumanOmni5-Quad BeadChip platform
47	27	Male	B-precursor	NK	60,XXY,+Y,-1,-2,-3,+4,-5,-6,-7,+8,+9,-10,-11,-12,-13,+14,-15,-16,-17,+18,-19,-20,+21,-22,inc		HeH	HumanOmni5-Quad BeadChip platform
48	72	Male	B-precursor	1	46,XY,t(4;11)(q21;q23)		MLL/AFF1	HumanOmni5-Quad BeadChip platform
49	57	Male	B-precursor	48	45,XY,der(7;9)t(7;9)(p11-12;p13)t(9;22)(q34;q11),der(22)t(9;22)	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
50*	34	Male	B-precursor	48	46,XY,t(8;14)(q11;q32),der(14)t(8;14)			HumanOmni5-Quad BeadChip platform

51	23	Female	B-precursor	74+	45-48,XX,i(8)(q10),der(9)t(9;22)(q34;q11)del(22)(q11q11),der(22)t(9;22)/47-48,idem,der(3)t(1;3)(q24;q28),+i(8)(q10)	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
52	56	Female	B-precursor	74+	46,XX				HumanOmni5-Quad BeadChip platform
53	69	Female	B-precursor	7	45,XX,-7				HumanOmni5-Quad BeadChip platform
54*	18	Female	B-precursor	2	53,XX,+X,+4,t(4;11)(q21;q23),+6,+12,+17,+20,+21		MLL/AFF1	HeH	HumanOmni5-Quad BeadChip platform
55	20	Male	B-precursor	14	45,XY,dic(9;20)(p13;q11)/46,idem,t(9;22)(q34;q11)	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
56	59	Female	B-precursor	15	46,XX,t(9;22)(q34;q11),-16,?del(19)(p11),+mar	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
57	34	Male	B-precursor	65+	46,XY,t(9;22)(q34;q11)/47,idem,+der(22)t(9;22)	BCR/ABL1 (P190)			HumanOmni5-Quad BeadChip platform
58	23	Female	B-precursor	34	47,XX,add(14)(q32),+12				HumanOmni5-Quad BeadChip platform
59	75	Female	B-precursor	4	46,XX,t(1;4)(p3?4;q2?5),?der(3)t(3;9)(p24;p1?3),der(9)?del(9)(p1?3)t(3;9)(p24;q3?2)				HumanOmni5-Quad BeadChip platform
60	61	Male	B-precursor	33	46,XY,ins(22;9)(q11;q34q34)	BCR/ABL1 (P210)			HumanOmni5-Quad BeadChip platform
61	30	Male	B-precursor	6	46,XY				HumanOmni5-Quad BeadChip platform
62	32	Male	B-precursor	52+	59,XY,+X,+2,+4,+6,+8,t(9;22)(q34;q11),+10,+14,+18,+19,+20,+21,+21,+der(22)t(9;22)	BCR/ABL1 (P190)		HeH	HumanOmni5-Quad BeadChip platform

63	23	Male	B-precursor	49+	55-56,XY,+X,+4,+4,+6,+10,+18,+21,+21,+21		HeH	HumanOmni5-Quad BeadChip platform
64	42	Male	B-precursor	2	??,X?,der(19)t(1;19)(q23;p13) [based on FISH]	TCF3/PBX1		HumanOmni5-Quad BeadChip platform
65	19	Male	B-precursor	NK	46,XY,del(12)(p13p13)			HumanOmni5-Quad BeadChip platform
66	75	Female	B-precursor	3	40,XX,add(1)(q31),-3,-4,-5,add(7)(q11),-9,-11,-13,-16,-17,-17,-18,+4mar			HumanOmni5-Quad BeadChip platform
67*	62	Male	B-precursor	9	33,X,+Y,+1,+5,+6,+10,+11,+18,+19,+21,+22/66,idemx2		HoL	HumanOmni1-Quad BeadChip platform
68	60	Female	B-precursor	40+	45,XX,dic(7;9)(p11;p13)			HumanOmni5-Quad BeadChip platform
69	62	Female	B-precursor	40+	45-48,XX,del(1)(p12),del(1)(q21),t(9;22)(q34;q11),+mar,inc	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
70	19	Male	B-precursor	29	49,XY,+6,t(9;22)(q34;q11),+19,der(19)t(1;19)(q2?1;p13)x2,+der(22)t(9;22)/49,idem,add(7)(q36)/50,idem,+8	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
71	77	Female	B-precursor	33+	46,XX,t(9;22)(q34;q11)/46,idem,-9,+der(22)t(9;22),inc	BCR/ABL1 (P190)		HumanOmni5-Quad BeadChip platform
72	32	Female	B-precursor	15	84,XXXX,-2,-3,-4,-5,+6,-7,-8,-9,+10,+14,-15,-15,-16,-17,-17,+18,-19,+21			HumanOmni5-Quad BeadChip platform
73*	22	Female	B-precursor	29+	46,XX,t(1;5)(q21;q32)/42-48,idem,+8/48,idem,+der(5)t(1;5),+21			HumanOmni5-Quad BeadChip platform
74	20	Female	B-precursor	NK	46,XX,del(9)(p21p21) [based on FISH]			HumanOmni5-Quad BeadChip platform

75	78	Female	B-precursor	9	46,XX,i(9)(q10),t(14;19)(q32;q13)		HumanOmni5-Quad BeadChip platform
76	66	Female	B-precursor	16	46,XX,t(4;11)(q21;q23)	MLL/AFF1	HumanOmni5-Quad BeadChip platform
77	64	Female	B-precursor	43	46,XX,inv(2)(p11q33),t(9;22)(q34;q11)	BCR/ABL1 (P190)	HumanOmni5-Quad BeadChip platform
78	61	Female	B-precursor	65	46,XX		HumanOmni5-Quad BeadChip platform
79	58	Male	B-precursor	1	45,XY,del(1)(p13p22),der(3)t(3;?8)(q2?6;q21-22),+add(5)(q11),der(5;13)(q10;q10),-8,dic(9;15)(p11;p11),-12,der(14)t(12;14)(q13;q32),del(17)(p11),-20,+21,+2mar/44,idem,-7,-del(17)		HumanOmni5-Quad BeadChip platform
80	26	Male	B-precursor	22+	46,XY		HumanOmni5-Quad BeadChip platform
81	39	Female	T-cell	8	46,XX		HumanOmni1-Quad BeadChip platform
82	62	Female	T-cell	3	47,X,t(X;2)(q28;p14),del(18)(q21),+mar		HumanOmniExpress BeadChip platform
83	83	Male	T-cell	1	46,X,-Y,+del(X)(q26),der(1)t(1;1)(p36;q12)del(1)(q11q21),t(3;22)(q27;q11)/47,idem,+5		HumanOmni1-Quad BeadChip platform
84	38	Male	T-cell	13	46,XY,?del(1)(p11p22),del(6)(q22),t(10;14)(q24;q11),del(12)(p11)		HumanOmni1-Quad BeadChip platform
85	33	Male	T-cell	100	46,XY		HumanOmni1-Quad BeadChip platform
86	32	Male	T-cell	12	47,XY,+4		HumanOmni5-Quad BeadChip platform
87	61	Male	T-cell	12	46,XY,del(11)(q13q22-23)		HumanOmni5-Quad BeadChip platform

88	35	Female	T-cell	17	46,XX,del(12)(p13)/47,idem,+21		HumanOmni5-Quad BeadChip platform
89	20	Male	T-cell	88+	46,XY		HumanOmni5-Quad BeadChip platform
90	30	Male	T-cell	17	46,XY,del(7)(p13)		HumanOmni5-Quad BeadChip platform
91	48	Male	T-cell	26	46,XY,t(9;22)(q34;q11),inc	BCR/ABL1 (P190)	HumanOmni5-Quad BeadChip platform
92	18	Female	T-cell	NK	??,X?,+11,del(12)(p13p13),del(22)(q11q11) [based on FISH]		HumanOmni5-Quad BeadChip platform
93	24	Male	T-cell	65+	46,XY		HumanOmni5-Quad BeadChip platform
94	25	Male	T-cell	NK	??,X?,del(9)(p21p21)x1-2 [based on FISH]		HumanOmni5-Quad BeadChip platform
95	18	Male	T-cell	12	46,XY,ins(4;?)(q34;?),der(8)t(8;9)(p2?;p21),del(9)(p21p21) [partly based on FISH]		HumanOmni5-Quad BeadChip platform
96	72	Male	T-cell	15	46,XY,der(21)t(1;21)(q25;p11)		HumanOmni5-Quad BeadChip platform
97	68	Male	NK	25	45,X,-Y,t(11;19)(q23;p13)	MLL/Unknown	HumanOmni5-Quad BeadChip platform
98	18	Male	NK	26+	50-55,XY,+7,+8,+11,+12,+13,+19,+20,+21,+22,+mar	HeH	HumanOmni1-Quad BeadChip platform
99	19	Female	NK	19	46,XX,t(4;11)(q21;q23),i(7)(q10)	MLL/AFF1	HumanOmni1-Quad BeadChip platform
100	31	Male	NK	NK	46,XY,t(9;22)(q34;q11)/47,idem,+8	BCR/ABL1	HumanOmni1-Quad BeadChip platform
101	57	Female	NK	18	46,XX [positive for t(9;22)(q34;q11) at relapse]	BCR/ABL1	HumanOmni1-Quad BeadChip platform

102	76	Female	NK	1	45-48,XX,t(1;3)(q25;q32),t(1;12)(q12;q12),t(1;18)(q12;q22),del(4)(p14),add(6)(q?),i(6)(p10),-8,t(8;12)(q21;q15),del(12)(q22),+del(12)(q?),add(14)(q32),add(17)(p11),+r,+1-2mar		HumanOmni5-Quad BeadChip platform
103	19	Male	NK	NK	47,XY,+mar		HumanOmni5-Quad BeadChip platform
104	78	Male	NK	NK	46-47,XY,t(9;22)(q34;q11),t(11;20)(q11;q13),+der(22)t(9;22)	BCR/ABL1	HumanOmni5-Quad BeadChip platform
105	47	Male	NK	11	56,XY,+X,+Y,+1,+2,del(3)(p12),+del(3)(q12),+6,+8,+9,+10,-12,+14,+16,+19	HeH	HumanOmni5-Quad BeadChip platform
106	72	Female	NK	NK	46,X,-X,t(1;6)(q21;q24),+ins(3;?)(p21;?),t(4;14)(q35;q13),t(6;12)(q23;q15),del(7)(p15),del(9)(p21),del(11)(q14),-18,+r		HumanOmni5-Quad BeadChip platform
107	19	Male	NK	NK	53-55,XY,+X,t(3;12)(q21;p13),+4,+5,+8,+10,+14,+17,+18,+19,+20,+21,-22	HeH	HumanOmni1-Quad BeadChip platform
108	41	Male	NK	47	47,XY,+X		HumanOmni1-Quad BeadChip platform
109*	24	Female	NK	21	46,XX,del(11)(q23)	MLL/Unkown	HumanOmni1-Quad BeadChip platform
110	36	Female	T-cell	1	46,XX		HumanOmni1-Quad BeadChip platform
111	74	Female	NK	4	45,XX,-20		HumanOmni1-Quad BeadChip platform
112	77	Male	NK	NK	45-49,X,-Y,+?5,-8,del(9)(p12),+22,+2mar		HumanOmni5-Quad BeadChip platform

113	59	Female	NK	NK	46,XX		HeH (based on SNP)	HumanOmni5- Quad BeadChip platform
114	41	Female	NK	2	47,XX,+21c			HumanOmni1- Quad BeadChip platform
115	47	Male	NK	7	47,XY,+X,+1,t(4;11)(q21;q23),de r(17;21)(q10;q10)	MLL/AFF1		HumanOmni5- Quad BeadChip platform
116	28	Female	NK	19	45,XX,- 7,t(9;22)(q34;q11),der(11)t(7;11)(q11;q13)	BCR/ABL1 (P190)		HumanOmni5- Quad BeadChip platform
117	69	Female	NK	1	47- 49,XX,+X,+X,+X,add(1)(p22),del (3)(q21),-4,-6,add(6)(q11),-8,- 10,+3mar			HumanOmni5- Quad BeadChip platform
118	73	Female	NK	6	46,XX			HumanOmniExpr ess BeadChip platform
119	58	Female	NK	16	46,XX [positive for BCR/ABL1 fusion]	BCR/ABL1		HumanOmni5- Quad BeadChip platform
120	22	Male	NK	NK	43-47,XY,del(9)(p21),+12			HumanOmni5- Quad BeadChip platform
121	70	Female	NK	9	46,XX			HumanOmni5- Quad BeadChip platform
122	67	Male	NK	11	46,XY,t(9;22)(q34;q11)	BCR/ABL1 (P190)		HumanOmni5- Quad BeadChip platform
123	67	Female	NK	2	46,XX			HumanOmni5- Quad BeadChip platform
124	53	Female	B- precursor	105 +	??,?X,+der(9)(q34) [based on FISH]			HumanOmni5- Quad BeadChip platform
125	66	Female	NK	10	43-44,X,-X,del(2)(p23),- 7,add(7)(p22),?del(8)(p11),- 9,add(17)(p11),+mar/43- 44,idem,del(1)(q11),der(1;17)(q1 0;q10)			HumanOmni5- Quad BeadChip platform

126	48	Male	NK	2	46,XY,-6,+8,-17,+mar		HumanOmni5-Quad BeadChip platform
127R	48	Male	NK	30	46,XY,der(7)t(7;22)(q32;q11),add(9)(q34),t(13;18)(q12;p11),del(22)(q11)		HumanOmni1-Quad BeadChip platform
128R	67	Female	B-precursor	16	47,XX,t(9;22)(q34;q11),+der(22)t(9;22)	BCR/ABL1	HumanOmni5-Quad BeadChip platform
129R	40	Male	B-precursor	66	46,XY,?del(1)(q32),-2,add(3)(q11),t(3;9;22)(q26;q34;q11),-8,+der(9)t(9;22),del(12)(p12),del(14)(q2?3),+mar	BCR/ABL1 (P210)	HumanOmni5-Quad BeadChip platform
130R	39	Male	B-precursor	6	45-47,XY,+X,add(1)(p22),add(1)(q25),del(3)(p14),del(4)(q21),t(4;11)(q21;q23),del(6)(p22),add(8)(q24),add(11)(q23),der(12;17)(q10;q10),add(14)(q32),add(17)(p11),-20,+2mar	MLL/AFF1	HumanOmni5-Quad BeadChip platform
131R	20	Male	B-precursor	15	46,Y,-X,del(2)(p23),ins(7;?)(p15;?),del(12)(p11),add(17)(p13),add(21)(q22),+1-2mar/46,idem,del(4)(q31),-9		HumanOmni1-Quad BeadChip platform
132R	50	Female	B-precursor	27	47,XX,t(7;13;7)(q32;q22;p22),t(9;22)(q34;q11),+der(22)t(9;22)/46,idem,der(17;18)(q10;q10)	BCR/ABL1	HumanOmni5-Quad BeadChip platform
133R	72	Male	NK	33	46,XY,add(16)(p13)		HumanOmni5-Quad BeadChip platform
134	63	Male	B-precursor	26	46,XY		Failure
135	65	Male	B-precursor	7	45,X,-Y		Failure
136	23	Female	B-precursor	187+	46,XX		Failure

137	32	Female	B-precursor	27	46,XX,t(6;18)(q15;q21)/46,idem,der(1)t(1;?1)(p36;q32)/46,idem,der(3)(q23),add(7)(q11),der(13)t(7;13)(q11;q12)		Failure
138	60	Male	B-precursor	20	46,XY		Failure
139	81	Female	B-precursor	1	46,XX,t(4;11)(q21;q23)/47,idem,+X	MLL/AFF1	Failure
140*	23	Female	B-precursor	132+	46,XX,t(1;19)(q23;p13)	TCF3/PBX1	Failure
141	54	Female	B-precursor	12	48-49,XX,del(1)(q21),add(5)(q2?),+der(?)t(?;22)(?;q11),inc		Failure
142	19	Male	B-precursor	292+	46,XY		Failure
143	31	Male	B-precursor	11	46,XY		Failure
144	54	Female	B-precursor	24	Failure		Failure
145	26	Female	B-precursor	75+	42-45,XX,i(7)(q10),add(11)(p13),ins(14;14)(q1?3;q1?3q32)		Failure
146	23	Male	B-precursor	NK	??,X?,-4,+8,+8,+10,-14,-17,+21,+21 [based on FISH]		Failure
147	25	Male	B-precursor	NK	??,X?,del(9)(p21p21)x2 [based on FISH]		Failure
148	29	Female	B-precursor	NK	46,XX,t(4;11)(q21;q23)	MLL/AFF1	Failure
149	25	Female	T-cell	69+	46,XX		Failure
150	48	Male	T-cell	31	46,XY		Failure
151	23	Female	T-cell	43+	46,XX,t(1;11)(q25;q21),add(2)(q31),del(16)(q22)/46,idem,?del(12)(p13)		Failure
152	36	Male	NK	10	46,XY,t(9;22)(q34;q11)	BCR/ABL1 (P190)	Failure
153	51	Male	NK	NK	46,XY		Failure
154	43	Female	NK	8	46,XX,t(9;22)(q34;q11)/46,idem,add(7)(q31)	BCR/ABL1 (P210)	Failure

155	49	Female	NK	8	42-45,XX,add(1)(q31),der(7)t(7;?9)(p11-13;q21),-9,der(14)t(14;?17)(p11-13;q11-12),-17,+mar			Failure
156	69	Female	NK	8	46,XX,t(9;22)(q34;q11)	BCR/ABL1 (P190)		Failure
157*	75	Male	B-precursor	6	46,XY,del(5)(q13q33),del(7)(q11q22)/46,idem,add(3)(p13)			No material
158	19	Female	B-precursor	125	46,XX,add(12)(p12),-14,+r			No material
159	56	Male	B-precursor	8	46,XY,t(9;22)(q34;q11)	BCR/ABL1		No material
160	64	Male	B-precursor	2	45-49,XY,+2mar	BCR/ABL1		No material
161	64	Female	B-precursor	213+	46,XX,t(5;8)(q33-35;q11-12)			No material
162	21	Male	B-precursor	170+	55-56,XY,+X,?add(3)(q?),+4,+?6,+11,+17,+?18,+21,+21,inc	HeH		No material
163	72	Male	B-precursor	1	49,Y,?add(X)(p22),t(5;20)(q11;p11),+6,+8,add(9)(p13),+12,add(12)(q15)x2,-17,add(19)(q13),+22			No material
164	47	Male	B-precursor	34	46,XY,t(9;22)(q34;q11),inc	BCR/ABL1 (P210)		No material
165	24	Male	B-precursor	26+	46,XY			No material
166	27	Male	B-precursor	9	51,XY,+4,+del(6)(q21),t(9;22)(q34;q11),-10,add(11)(p?),+19,+21,+1-6mar	BCR/ABL1	HeH	No material
167	62	Male	B-precursor	42	46,XY			No material
168	30	Female	B-precursor	23	46,XX,add(7)(p11),-9,del(11)(q23),+mar			No material
169	62	Male	B-precursor	8	46,XY	BCR/ABL1		No material
170	64	Female	B-precursor	13	46,XX,t(4;11)(q21;q23)/45,idem,-?22	MLL/AFF1		No material

171	19	Male	B-precursor	206+	46,XY,del(6)(q21),i(9)(q10),der(19)t(1;19)(q23;p13)	TCF3/PBX 1	No material
172	18	Female	B-precursor	16	47,XX,+mar		No material
173*	22	Female	B-precursor	196+	46,XX,der(19)t(1;19)(q23;p13)/46,idem,der(15)t(1;15)(q21;p11)	TCF3/PBX 1	No material
174	77	Female	B-precursor	6	45,XX,?der(7;12)(p10;q10)		No material
175	62	Male	B-precursor	1	68-70,XX,-Y,+1,-2,-3,+5,+5,+5,+6,-7,+8,+11,-12,-13,-15,-16,-17,-18,+19,+20,+21,+22,+mar	HoL	No material
176	35	Male	B-precursor	102+	46,XY,t(9;22;15)(q34;q11;q22),i(17)(q10)/46,XY,t(9;22)(q34;q11)	BCR/ABL1 (P190)	No material
177	67	Male	B-precursor	4	46,XY,t(9;22)(q34;q11)/46-49,idem,+1,der(1;16)(q10;p10),+?9/45-46,idem,+1,der(1;16),?t(5;5)(p14;p15)	BCR/ABL1	No material
178	44	Male	B-precursor	32+	46,XY		No material
179	63	Male	B-precursor	2	47,XY,del(4)(q25),add(6)(p25),del(7)(q31),add(9)(p11),del(11)(q23q23),add(13)(q14),-16,+21,+mar		No material
180	77	Male	B-precursor	29	43-45,XY,-3,-4,-6,-9,+3mar		No material
181	69	Female	T-cell	6	46,XX		No material
182	43	Male	T-cell	91	46,XY,del(2)(q33)		No material
183	28	Male	T-cell	44	47,XY,t(7;7)(p14-15;q34-35),+13		No material
184	26	Male	T-cell	61+	46,XY		No material
185	74	Male	T-cell	11	46,XY		No material
186	18	Male	T-cell	14	46,XY		No material
187	44	Male	T-cell	2	86-92,XXYY,inc		No material
188	32	Male	T-cell	8	46,XY,t(11;14)(p13;q11)		No material
189	58	Female	NK	1	46,XX,t(4;11)(q21;q23)	MLL/AFF1	No material

190	74	Female	NK	33	56-59,XX,+1,+5,+6,+6,+8,+9,+11,-14,add(14)(p11),-15,+18,+21,+21,+22,+22,+3mar,d min		HeH	No material
191	67	Female	NK	12	46,XX,t(9;22)(q34;q11)	BCR/ABL1		No material
192	39	Male	NK	NK	??,X?,der(11)(q23)		MLL/Unkno wn	No material
193	56	Female	NK	NK	46,XX			No material
194	79	Female	NK	1	47,XX,+mar/47,idem,add(1)(p36)			No material
195	53	Female	NK	13	45,X,-X,-7,t(22;22)(q11;q13),+mar			No material
196	47	Male	NK	10	46,XY			No material
197	44	Female	NK	5	47,XX,t(9;22)(q34;q11),+mar	BCR/ABL1		No material
198*	62	Male	NK	1	92,XXYY			No material
199	24	Male	NK	1	46,XY			No material
200	43	Female	NK	15	49,XX,+4,+5,+8,t(9;22)(q34;q11)/49-50,idem,i(17)(q10)/50,idem,+der(22)t(9;22)	BCR/ABL1		No material
201	54	Female	NK	74	46,XX			No material
202	25	Male	NK	86	46,XY			No material
203	33	Male	NK	10	47,XY,+X,t(4;11)(q21;q23),?del(16)(q22)		MLL/AFF1	No material
204	49	Female	NK	21	46,XX,t(9;22)(q34;q11)	BCR/ABL1		No material
205	83	Male	NK	6	37-38,X,-Y,-3,-7,-8,-15,-16,-17,-18,-19,+mar		HoL	No material

Abbreviations: Chr, chromosome; Heh, high hyperdiploid; HoL, low hypodiploid, NK, not known; OS, overall survival; R, relapse.

*The original karyotype has been published previously.

Supplementary Table 2. Single nucleotide polymorphism array analysis results for adult acute lymphoblastic leukemia

Case No.	Chr	Abnormality	Last normal SNP	Pos of LNS (bp)	First abnormal SNP	Pos of FAS (bp)	Last abnormal SNP	Pos of LAS (bp)	First normal SNP	Pos of FNS (bp)	Relapse sample
1D	5	1+0	rs10066782	158,432,118	rs4244439	158,442,109	rs7732511	158,530,015	rs3862065	158,531,711	
1D	7	1+0	cnvi0123895	50,344,008	cnvi0121515	50,344,118	rs11980379	50,469,981	rs4132601	50,470,604	
1D	8	1+0				pter	rs10090988	29,937,404	rs10106729	29,938,830	
1D	8	2+1	rs10106729	29,938,830	rs7015785	30,179,213	qter				
1D	12	1+0	rs10507004	92,274,855	rs118343329	92,278,448	rs709230	92,553,230	rs17020060	92,526,484	
1D	14	1+0	rs12878371	103,687,580	rs10135898	103,689,451	qter				
1D	19	1+0				pter	rs10416569	2,257,666	rs16991258	2,608,196	
1D	19	1+0	rs12459551	3,189,278	rs312071	3,208.42	rs8103778	4,569,809	rs16992471	4,640,299	
1D	19	2+1	rs8103778	4,569,809	rs16992471	4,640,299	rs279194	12,004,432	rs12972621	12,256,358	
2D	3	0 copies	rs12490125	82,225,560	rs4414874	82,229,206	kgp9407971	82,278,440	rs13087528	82,280,224	
2D	7	1+0	rs28508243	50,161,691	rs11760445	50,171,491	rs6952409	50,462,935	kgp12471039	50,463,757	
3D	5	subclonality 3 copies	rs13184924	108,102,347	rs11955321	108,252,231	rs17616484	131,086,617	rs370652	131,312,327	
3D	5	subclonality 3 copies	rs2530223	141,014,494	kgp5401950	141,059,158	rs17096590	145,693,202	rs4705117	145,953,409	
3D	9	1+0				pter		cen			
3D	9	0 copies	rs2519454	20,625,228	rs2780838	20,629,336	rs3218005	22,000,247	kgp18247065	22,000,770	
3D	9	2+1				cen		qter			
3D	12	1+0				pter	rs10771427	28,605,426	rs7314502	28,615,233	
3D	17	1+0				pter	rs1624825	18,923,818			
3D	17	2+1	rs1624825	18,923,818	rs959071	19,142,226	qter				
4D	3	UPD				pter	rs2736812	60,055,454	rs13070338	60,064,296	
4D	11	1+0	rs10791642	103,635,415	rs12576536	103,653,871	rs1712813	114,541,603	rs1792419	114,565,114	
4D	11	0 copies	rs11212182	107,231,605	rs2508681	107,239,106	rs12277267	107,243,206	rs9787772	107,250,851	
4D	12	1+0	rs10777342	92,257,133	rs4240750	92,299,169	rs12694	92,539,590	rs709230	92,553,230	
5D	9	1+0	rs10964160	19,472,784	rs10117909	19,492,973	kgp10268200	21,894,391			
5D	9	0 copies	kgp10268200	21,894,391	kgp9393505	21,895,053	kgp18571671	21,974,525	kgp18289116	21,978,443	
5D	9	1+0			kgp18289116	21,978,443	kgp10653416	22,219,365	kgp35761413	22,226,698	
5D	21	2+1				pter		qter			
6D	9	1+0				pter		cen			
6D	20	1+0				cen		qter			
7D	5	1+0	rs10066782	158,432,118	rs4244439	158,442,109	rs7732511	158,530,015	rs3862065	158,531,711	seen at relapse

7D	7	1+0	rs9648642	9,968,807	rs17162231	9,977,206	rs41423	10,097,230	rs10239257	10,106,803	seen at relapse
7D	7	1+0	rs882034	50,211,199	rs897694	50,222,500	rs7809377	50,442,726	rs7780012	50,438,720	seen at relapse
7D	9	2+1	rs2855179	133,657,281	rs2855194	133,735,644	rs470420	134,096,015	rs11244336	134,118,740	seen at relapse
7D	13	1+0	rs17065636	44,840,346	rs9525927	44,842,503	rs1053948	45,008,333	rs6561176	45,013,449	seen at relapse
7D	X	1+1				pter		qter			
		subclonality									
7R	1	3 copies	rs677661	36,133,918	rs795047	36,637,708	rs10915955	226,363,155	rs12025226	226,612,023	
7R	1	1+0	rs12025226	226,612,023	rs12727754	227,356,925	qter				
		subclonality									
7R	2	3 copies	rs2674075	59,796,020	rs11125813	59,991,047	rs243039	60,597,565	kgp5235300	60,697,464	
7R	8	2+1				pter	rs7009864	22,604,740	rs11777000	22,716,926	
7R	X	1+1				pter		cen			
8D	8	1+0	rs9297852	133,549,339	rs2357301	133,591,631	rs7000796	135,664,673	rs10505627	135,693,723	
8D	8	1+0	rs10105152	136,824,621	rs4345596	136,838,800	rs2119235	137,428,405	rs1371746	137,511,102	
8D	9	2+1				pter	rs12003183	19,601,887			
8D	9	UPD	rs718623	19,628,633	rs12686805	19,635,062	rs35905429	32,632,532	rs13289434	32,917,428	
8D	9	0 copies	kgp169940	21,973,422	rs3731239	21,974,218	kgp4570145	22,008,026	kgp4962704	22,011,477	
8D	9	2+1			rs13289434	32,917,428	rs4129107	38,714,729	rs10123683	38,809,756	
		subclonality									
8D	12	3 copies	rs10849299	5,599,163	rs10744699	6,280,584	rs9300165	25,132,771	rs456442	25,417,418	
8D	12	1+0	rs7961344	11,794,636	rs10772497	11,801,125	rs7966813	12,149,596	rs6488482	12,155,754	
8D	20	1+0	rs2745755	8,276,969	rs1509116	8,295,533	rs1235145	8,325,681	rs708931	8,353,599	
8D	20	1+0	rs2662982	8,407,490	rs771941	8,415,399	rs6086523	8,573,437	rs6039208	8,588,762	
9D	2	1+0	rs2063702	174,768,101	rs4508563	174,784,505	rs6750398	236,018,682	rs11692903	236,021,615	
9D	3	UPD				pter		qter			
9D	4	UPD				pter		qter			
9D	5	UPD				pter		qter			
9D	7	UPD				pter		qter			
9D	8	UPD				pter		qter			
9D	9	UPD				pter		qter			
9D	9	1+0	rs10814189	3,508,131	rs7046581	2,517,672	rs2295964	4,679,906	rs301486	4,680,653	
9D	9	1+0	rs7874876	21,019,817	rs1419371	21,024,103	kgp9006995	22,510,754	kgp4172498	22,512,262	
9D	13	UPD				pter		qter			
9D	15	UPD				pter		qter			

10D	20	UPD				pter		qter			seen at relapse
10D	21	2+1				pter		qter			
10D	X	1+1				pter		qter			seen at relapse
10R	2	UPD				pter		qter			
10R	10	UPD				pter		qter			
10R	11	2+1				cen		qter			
		subclonal									
10R	12	1+0	cnvi0156970	76,775,393	rs17197894	76,900,956	rs11105975	91,479,154	rs768804	91,994,098	
10R	18	UPD				pter		qter			
10R	22	1+0	rs4820094	33,161,824	rs5754282	33,176,834	qter				
10R	X	2+1	cnvi0117224	5,161,554	rs1377666	5,172,908	cnvi0124271	26,061,628	rs5944286	26,101,172	
11D	1	UPD				cen		qter			
11D	5	2+1	kgp138184	32,103,905	kgp5582753	32,106,628	kgp227261	32,173,034	kgp10946134	32,175,137	seen at relapse
11R	1	2+1				cen		qter			
12D	7	1+0				pter		cen			
12D	7	0 copies	kgp10961940	50,411,987	kgp13496783	50,413,334	kgp12471039	50,463,757	kgp602789	50,464,756	
12D	9	1+0				pter		cen			
13D	7	1+0				pter		cen			
13D	7	2+1				cen		qter			
14D	6	UPD				pter	kgp17422166	43,019,435,	kgp4764175	43,947,398	
14D	9	1+0	kgp7323744	28,188,899	kgp18284124	28,189,715	kgp11640637	28,348,133	kgp694017	28,354,180	
14D	17	1+0	rs9915124	29,308,489	rs952190	29,309,415	kgp23982426	30,362,448	rs16967081	30,366,843	
14D	19	UPD				pter	kgp3054739	20,941,062	rs12976221	21,283,449.00	
15D	1	1+0				pter	rs2661865	8,325,211	rs438895	8,338,355	
15D	1	2+1				cen	rs2791149	163,579,955	rs10753622	163,582,039	
15D	1	2+1	rs584161	190,577,336	rs1246726	191,349,614	rs10157433	194,639,414	rs2131384	194,736,589	
15D	1	2+1	rs4658015	196,053,435	rs6428323	196,059,593	rs973197	215,592,251	rs6540897	215,640,500	
15D	1	2+1	rs4445537	218,418,085	rs3753592	218,458,058	qter				
15D	2	2+1	rs11679028	59,973,741	rs11125811	59,987,774	rs4852279	72,264,864	rs17560823	72,742,820	
15D	2	2+1	rs4832076	84,603,760	rs10210248	84,673,252	rs2953715	87,428,677	rs7595598	87,481,274	
15D	2	1+0				cen	rs16840032	208,664,252	rs6728825	208,706,437	
15D	5	2+1	rs7703631	3,415,311	rs11742901	3,429,107	rs1173179	4,803,549	rs707645	4,867,913	
15D	5	2+1	rs13180321	6,993,552	rs4321863	7,006,254	rs1428514	11,636,016			
15D	5	1+0	rs4541658	12,017,548	rs12054798	12,035,993	rs375183	31,736,582	rs12516825	31,751,372	
15D	5	2+1			rs12516825	31,751,372	rs2194251	35,393,350	rs284725	35,455,201	

15D	5	2+1	rs7719442	50,743,281	rs10053849	50,781,062	rs10041669	54,834,537	rs10940473	54,873,285
15D	5	2+1	rs11741803	57,359,818	rs6867541	57,369,279	rs10055647	120,477,945		
15D	5	1+0	rs7731784	120,471,719	rs10055647	120,477,945	rs4868038	170,283,091	rs4868043	170,328,399
15D	5	2+1			rs4868043	170,328,399	qter			
15D	6	2+1				cen	rs11153434	114,016,683		
15D	6	1+0	rs11153434	114,016,683	rs9488242	114,030,316	rs2326186	125,806,422	rs1353200	125,815,808
15D	6	2+1			rs1353200	125,815,808	rs13202608	127,483,308		
15D	6	1+0	rs13202608	127,483,308	rs7745274	127,509,157	qter			
15D	7	1+0				pter	rs7787122	9,745,966	rs6972864	9,767,984
15D	8	2+1	rs6984650	67,848,215	rs7820882	68,389,059	rs7013096	68,917,686	rs7817030	68,949,670
15D	8	2+1	rs16939073	76,367,712	rs1399563	76,462,383	rs272594	81,470,120	rs1045667	81,545,195
15D	8	2+1	rs11988146	89,536,805	rs13274015	89,600,751	rs2107071	91,291,686	rs6980628	91,333,198
15D	8	2+1	rs7832047	111,342,240	rs12155933	111,463,358	rs4909494	136,646,548	rs13254363	136,667,194
15D	9	1+0				pter		cen		
15D	11	1+0	rs4269941	86,484,580	rs12787853	86,490,519	rs7116745	105,727,407	rs1939153	105,751,726
15D	11	1+0	rs10892996	123,157,134	rs1082999	123,158,221	rs4946943	124,455,088	rs7127399	124,461,274
15D	11	1+0	rs11604758	124,721,003	rs7112124	124,730,646	rs7947267	130,236,181	rs6590453	130,240,761
15D	11	1+0	rs7106928	130,809,259	rs11222410	130,833,994	rs3741098	134,243,447	rs893952	134,249,349
15D	13	1+0	rs9553353	25,148,188	rs943049	25,180,151	rs1632215	27,311,246	rs7329629	27,321,268
15D	13	1+0	rs7992970	42,954,463	rs1886214	42,948,531	rs11843180	68,340,875	rs7997836	68,361,371
15D	15	0 copies	rs11072499	74,968,873	rs11629496	74,992,919	rs28397782	75,109,157	rs1531162	75,111,984
15D	15	1+0	rs28397782	75,109,157	rs1531162	75,111,984	rs2030473	79,515,006	rs11072836	79,525,909
15D	17	1+0				pter		cen		
15D	17	2+1				cen		qter		
15D	18	2+1	rs379982	65,256,094	rs281562	65,263,773	rs938845	65,709,995	rs4891649	65,748,778
15D	19	2+1	rs641738	54,676,763	rs3810233	54,693,965		qter		
15D	22	0 copies	rs6001766	22,672,581	rs3819309	22,681,765	rs4634036	23,070,912	rs1475930	23,250,737
15D	X	2+1				pter		qter		
16D	9	2+1				pter		cen		
16D	12	2+1				pter	rs2051526	11,907,128	rs17210671	11,942,422
16D	12	2+1	rs11055015	12,836,670	rs10734854	12,860,157	rs6488674	14,488,914	rs17401641	14,517,338
16D	12	2+1	rs4633513	18,071,729	rs12582398	18,128,339	rs4387408	18,467,618	rs11044078	18,554,338
17D	1	1+0	rs7553708	210,978,485	rs7532949	210,984,565	qter			seen at relapse
17D	2	UPD				pter		qter		seen at relapse

17D	3	UPD				pter		qter			seen at relapse
17D	4	UPD				pter		qter			seen at relapse
17D	7	UPD				pter		qter			seen at relapse
17D	9	UPD				pter		qter			seen at relapse
17D	9	1+0	rs17833407	21,748,320	kgp2450738	21,813,718	rs12000593	22,523,533	rs10811723	22,542,285	seen at relapse
17D	11	UPD				pter		qter			seen at relapse
17D	12	UPD				pter		qter			seen at relapse
17D	13	UPD				pter		qter			seen at relapse
17D	15	UPD				pter		qter			seen at relapse
17D	16	UPD				pter		qter			seen at relapse
17D	17	UPD				pter		qter			seen at relapse
17D	18	UPD				pter		qter			seen at relapse
17D	20	UPD				pter		qter			seen at relapse
18D	X	2+1				pter		qter			
19D	5	1+0	rs10040979	158,424,391	kgp130276	158,437,823	kgp5515892	158,523,584	kgp4067983	158,528,632	
19D	7	1+0	kgp8254524	50,362,999	kgp6461235	50,411,178	rs11763774	50,462,138	kgp642881	50,465,654	
19D	9	1+0	kgp7565218	132,924,142	kgp4215861	132,930,914	rs2583839	133,593,939	rs4740359	133,595,219	
19D	11	1+0	kgp874899	125,939,993	rs679358	125,924,228	rs7931414	126,431,836	kgp10227676	126,432,303	
19D	12	1+0	rs12810163	9,981,162	kgp2502048	9,997,789	kgp19009932	13,066,116	kgp18988567	13,067,336	
19D	12	1+0	rs28399545	92,537,541	kgp8376811	92,537,706	kgp11077414	92,554,042	kgp19006203	92,558,657	
19D	22	1+0	kgp15028605	42,518,512	rs1135835	42,522,661	kgp24651021	42,531,303	kgp9067952	42,535,185	
20D	9	1+0	kgp6521213	21,652,903	kgp6675492	21,653,648	kgp3629876	21,945,541			
20D	9	0 copies	kgp3629876	21,945,541	rs10985197	21,948,666	rs4074785	21,981,583	kgp1073950	21,984,010	
20D	9	1+0			kgp1073950	21,984,010	kgp2814067	22,039,601	kgp9382125	22,041,443	
21D	7	1+0	rs7781977	50,346,134	rs6583437	50,350,267	kgp12397450	50,462,601	rs6952409	50,462,935	

21D	11	subclonality 3 copies	kgp4199803	71,144,013	kgp1017081	71,221,323	qter			
21D	15	subclonality 3 copies	kgp2937777	84,606,942	kgp9001141	84,614,979	qter			
21D	22	2+1	kgp5092840	18,640,203	kgp15111171	18,884,912	kgp3204597	20,311,136	rs61689	20,742,450
22D	9	0 copies	kgp27160896	21,895,103	kgp18622134	21,889,885	kgp18558802	22,003,790	rs3217982	22,005,647
22D	12	1+0	rs11830004	92,208,719	kgp11698516	92,213,301	kgp516989	92,274,334		
22D	12	0 copies	kgp516989	92,274,334	rs10507004	92,274,855	kgp3442555	92,537,846	rs11554835	92,537,797
22D	18	1+0	kgp12080936	53,254,741	rs12457949	53,258,609	kgp5409695	53,735,635	rs2187544	53,760,080
22D	20	1+0	kgp11496642	3,672,410	kgp6148182	3,650,066	GA017055	30,064,331	kgp452126	30,440,688
22D	20	1+0	rs44310017	31,733,956	rs927159	31,819,789	kgp19229987	59,644,108	kgp1916750	59,904,704
22D	20	1+0	kgp7452319	61,502,378	kgp3838170	61,446,762	rs72723624	62,385,479	rs6062551	62,489,789
23D	1	1+0				pter	kgp12414682	3,608,281	kgp4825161	3,613,067
23D	4	2+1				pter		qter		
23D	6	1+0	rs947223	81,050,936	kgp5940601	81,059,061	rs10498923	81,253,907	rs2322841	81,262,988
23D	7	2+1				pter		qter		
23D	9	2+1	kgp6077953	133,686,136	kgp783736	133,717,275	qter			
23D	12	1+0				pter	rs11047717	25,091,308	rs10505954	25,094,128
23D	13	1+0	rs2183284	30,926,730	rs9578163	30,927,769	rs4150729	114,265,305	kgp3277690	114,308,914
23D	14	subclonality 3 copies				pter		qter		
23D	20	2+1				pter		qter		
23D	21	2+1				pter		qter		
23D	22	2+1				pter		qter		
23D	X	subclonality 3 copies				pter		qter		
24D	4	2+1				pter		qter		
24D	5	2+1				pter		qter		
24D	6	2+1				pter		qter		
24D	9	2+1	rs7869951	133,588,943	rs10751508	133,608,116		qter		
24D	22	2+1				pter	rs9612178	23,299,287	rs6003439	23,327,745
24D	X	2+1				pter		qter		
25D	7	1+0				pter		cen		seen at relapse
25D	7	2+1				cen		qter		seen at relapse
25R	5	1+0	rs252160	150,087,245	kgp22094084	150,080,623	kgp8771219	157,655,044	rs1145605	157,704,332

26D	3	1+0				pter	kgp312205	86,536,545	rs11916693	86,537,262	
26D	3	0 copies	rs988487	65,188,453	kgp8264979	65,189,293	rs1479940	65,214,685	kgp18132208	65,214,855	
26D	7	1+0				pter	kgp233389	112,628,422	kgp22794961	112,629,930	
26D	7	0 copies	rs7806598	50,077,181	kgp22753968	50,079,455	kgp9602694	50,345,173	kgp13249781	50,345,765	
26D	8	1+0				pter	rs7827455	31,054,787	kgp20605633	31,055,158	
26D	8	2+1	rs6471711	59,281,825	kgp11749171	59,289,188	qter				
26D	9	1+0				pter		qter			
26D	9	0 copies	rs7025006	21,415,687	kgp7573480	21,416,222	kgp11751083	21,559,011	kgp18498895	21,559,217	
26D	16	1+0	kgp8487326	3,554,799	kgp16304817	3,556,398	rs12924990	3,661,815	rs11076781	3,663,231	
26D	16	2+1	rs247445	75,521,030	kgp10592682	75,532,995	kgp10658099	75,590,113	rs96432	75,594,918	
27D	7	1+0	kgp6090994	50,174,776	kgp2089242	50,195,343	rs6962370	50,454,736	kgp8704306	50,494,092	seen at relapse
27R	2	1+0	rs821496	238,956,063	kgp218333	238,964,462	qter				
27R	3	1+0	kgp8575116	41,588,643	rs2132329	41,591,887	kgp18064961	54,701,001	kgp2381208	54,703,207	
27R	6	1+0	kgp3594445	16,441,243	kgp2076115	16,448,637	kgp17105623	16,661,599	kgp269360	16,667,948	
28D	2	1+0	kgp7951933	172,330,393	rs6433294	172,369,069	qter				
28D	3	UPD				pter		qter			
28D	4	UPD				pter		qter			
28D	7	UPD				pter		qter			
28D	9	UPD				pter		qter			
28D	13	UPD				pter		qter			
28D	17	UPD				pter		qter			
28D	20	UPD				pter		qter			
29D	9	1+0				pter		cen			
29D	9	2+1				cen		qter			
30D	3	UPD				pter		qter			
30D	4	2+1				pter		qter			
30D	5	2+1				pter		qter			
30D	6	2+1				pter		qter			
30D	9	2+1				pter		qter			
30D	10	2+1				pter		qter			
30D	11	UPD				pter		qter			
30D	12	2+1				pter		qter			
30D	15	2+1				pter		qter			
30D	17	2+1				pter		qter			
30D	18	2+1				pter		qter			
30D	21	2+2				pter		qter			
30D	X	1+1				pter		qter			

31D	7	1+0				pter	rs34057777	56,175,529	kgp4292924	56,176,101	
32D	7	1+0				pter		qter			
32D	7	0 copies	rs320692	137,043,484	rs320704	137,051,175	rs6949890	139,054,107	rs3757435	139,106,990	
32D	9	1+0	rs1360549	16,292,669	rs16934439	16,321,578	rs7037577	21,772,037			
32D	9	0 copies	rs7037577	21,772,037	rs10811615	21,782,164	rs1679022	22,246,794	rs1679026	22,272,866	
32D	9	1+0			rs1679026	22,272,866	rs10970260	31,291,138	rs10813534	31,352,092	
32D	X	1+1				pter		qter			
33D	5	2+1				pter		qter			
33D	8	1+0	rs12549072	3,980,013	kgp12486547	3,987,663	cen				
33D	9	UPD				pter		cen			
33D	9	2+1				cen		qter			
34D	4	2+1				pter		qter			seen at relapse
34D	6	1+0	kgp1133880	156,586,046	kgp2136023	156,576,568	kgp1693710	157,201,306	kgp2480881	157,267,558	seen at relapse
34D	10	2+1				pter	rs7097573	95,243,624	kgp11399334	95,260,315	seen at relapse
34D	10	2+1	rs6584404	102,640,116	rs11190804	102,795,957	qter				seen at relapse
34D	18	2+1				pter		qter			seen at relapse
34D	21	2+1				pter		qter			seen at relapse
34D	X	2+1				pter		qter			seen at relapse
34R	6	1+0	kgp1296510	69,738,947	kgp1101996	69,741,916	kgp6573951	73,536,171	rs6927484	73,546,750	
34R	9	1+0	rs2890993	14,751,872	kgp18685809	15,007,699	rs7867513	19,511,096	kgp12074356	19,573,980	
34R	9	1+0	rs1548378	20,629,553	rs17685780	20,754,419	kgp9982853	24,619,194	kgp4274871	24,730,716	
34R	9	1+0	rs7847579	29,640,181	kgp9554789	30,130,213	kgp9586931	30,647,534	rs300546	30,775,345	
34R	9	1+0	rs7863401	35,942,406	rs10758338	35,968,663	kgp2855420	39,158,211	kgp11262519	41,836,638	
34R	9	1+0				pter	kgp7075700	10,367,523	kgp8273645	10,962,901	
34R	12	1+0				pter	rs10840763	17,761,179	kgp4730525	17,825,447	
34R	12	1+0	kgp8798071	18,418,360	kgp5955771	18,507,318	kgp3806194	20,274,936	kgp132760	20,471,342	
34R	12	1+0	rs10743520	24,959,594	rs2086939	25,205,241	kgp6907611	28,763,628	kgp712799	28,928,139	
34R	12	1+0	kgp3106909	28,931,165	kgp5482288	29,404,236	rs11050726	30,377,630	kgp11782976	30,589,998	
34R	12	1+0	rs1242473	33,101,714	kgp11555738	33,076,479	rs2129428	33,882,535	kgp689072	33,994,599	
34R	12	1+0	kgp10120	41,695,050	rs904076	42,189,272	rs12228904	43,014,321	kgp6671955	43,032,358	
34R	12	1+0	rs1734696	43,707,269	kgp3448441	44,032,653	rs17122920	48,755,642	kgp635387	49,013,277	

34R	12	1+0	kgp3031198	67,598,865	rs10506550	67,845,462	kgp9314912	70,216,959	rs989879	70,304,860	
34R	12	1+0	kgp9012311	74,592,171	rs1461055	74,854,750	kgp9875104	75,377,172	rs12299153	75,557,949	
34R	12	1+0	kgp5898760	79,231,591	rs1947736	79,311,449	rs7484667	84,322,342	kgp10138262	84,578,089	
34R	14	2+1				pter		qter			
35D	1	1+0	kgp818068	1,379,526	kgp6668404	1,384,038	kgp9024688	1,431,709	kgp3052883	1,438,802	seen at relapse
35D	1	1+0	kgp2264882	145,295,017	kgp4416159	145,378,010	rs10158961	145,748,199	rs10157535	145,755,813	seen at relapse
35D	2	1+0	kgp9099042	12,347,712	kgp8752159	12,351,867	kgp11734717	16,948,815	rs16982747	16,949,426	seen at relapse
35D	9	1+0	rs4977948	21,094,151	rs10964832	21,095,633	rs10757201	21,228,182			seen at relapse
35D	9	0 copies	rs10757201	21,228,182	rs7033839	21,234,721	kgp27383728	22,088,418	rs10757274	22,096,055	seen at relapse
35D	9	1+0			rs10757274	22,096,055	kgp3806437	23,937,681	rs13291363	23,940,643	seen at relapse
35D	12	1+0	kgp4195196	10,431,550	rs2537791	10,432,574	kgp7442216	14,135,553	kgp5936302	14,135,505	seen at relapse
35D	16	1+0	rs1397587	49,174,079	rs1397588	49,172,572	rs2074627	72,136,769	rs12708928	72,137,227	seen at relapse
35D	17	2+1	rs2066899	44,155,732	kgp23772939	44,159,646	kgp4348711	44,360,941	kgp4744274	44,364,584	seen at relapse
36D	14	1+0	kgp5137568	43,389,329	kgp10573264	43,429,830	rs8004967	43,961,379	kgp134840	44,001,884	
36D	21	2+1				pter		qter			
36D	X	2+1	rs5927177	33,478,054	rs5971730	33,488,489	rs2506816	33,862,700	kgp2282996	33,877,060	
37D	1	1+0	rs34393348	39,328,203	kgp3875030	39,333,775	kgp4552918	39,639,160	kgp1495408	39,643,089	seen at relapse
37D	1	1+0	rs6547788	113,931,699	kgp24876630	113,932,613	kgp15425865	114,471,545	kgp5529094	114,473,083	seen at relapse
37D	1	1+0	kgp3212771	198,728,424	kgp15495668	198,729,015	rs12121465	199,062,422	kgp25189712	199,065,640	seen at relapse
37D	2	1+0	kgp7703106	97,909,839	kgp606710	98,013,739	kgp8882735	99,551,858	kgp14526260	99,554,211	seen at relapse
37D	2	1+0	kgp11939579	136,868,191	rs1879088	136,871,610	kgp6471247	137,068,236	kgp10024264	137,068,891	seen at relapse
37D	2	1+0	kgp3001838	242,852,778	kgp11653589	242,853,745	kgp12304593	243,001,981	kgp3316156	243,012,156	seen at relapse
37D	3	1+0	kgp2385552	14,245,921	kgp18145436	14,248,799	rs4685153	14,441,957	kgp5539071	14,446,410	seen at relapse

37D	3	1+0	rs7428383	82,152,151	rs6793519	82,162,668	kgp18229344	82,279,286	rs13087528	82,280,224	seen at relapse
37D	3	1+0	kgp2771004	112,051,693	rs3814411	112,051,905	kgp11497199	112,223,440	kgp6243439	112,224,309	seen at relapse
37D	4	1+0	kgp3057255	53,504,946	kgp29017753	53,561,060	rs1481823	54,238,009	kgp12469452	54,305,404	seen at relapse
37D	4	1+0	kgp2930635	108,970,485	kgp6275093	108,972,707	kgp11397983	109,103,406	kgp1128623	109,103,908	seen at relapse
37D	4	1+0	rs7658048	149,362,744	kgp8066781	149,363,959	kgp11727660	149,943,014	kgp1696004	149,943,965	seen at relapse
37D	5	1+0	kgp3899960	118,599,090	rs9327093	118,601,775	kgp1271907	118,738,066	kgp22309213	118,738,148	seen at relapse
37D	5	1+0	kgp22118774	123,498,970	kgp11650058	123,501,288	kgp8605561	124,079,152	kgp30299582	124,081,741	seen at relapse
37D	7	1+0	rs6955221	50,234,164	rs13231384	50,237,496	kgp6997415	50,345,807	rs7781977	50,346,134	seen at relapse
37D	7	1+0	kgp10961940	50,411,987	kgp13496783	50,413,334	rs6952409	50,462,935	kgp12471039	50,463,757	seen at relapse
37D	8	1+0	kgp8785548	55,768,577	kgp201179123	55,768,821	kgp8091063	66,922,566	kgp20421085	66,927,047	seen at relapse
37D	9	1+0	lgp8290085	17,140,182	rs2779771	17,147,361	kgp7327342	21,825,470			seen at relapse
37D	9	0 copies	kgp7327342	21,825,470	rs12337510	21,826,463	rs3217976	22,008,439	rs3217973	22,009,960	seen at relapse
37D	9	1+0			rs3217973	22,009,960	kgp4611871	24,686,915	rs10966398	24,687,157	seen at relapse
37D	9	1+0	kgp27305998	24,839,794	kgp7145833	24,840,323	cen				seen at relapse
37D	10	1+0	rs1171830	61,665,886	kgp9833319	61,668,339	kgp21963548	62,232,041	kgp8892101	62,233,111	seen at relapse
37D	11	1+0	kgp2979141	47,879,161	kgp2654268	47,884,847	kgp5957974	48,003,392	rs7946766	48,004,369	seen at relapse
37D	11	1+0	rs7933350	82,651,993	kgp9025740	82,659,498	kgp8562081	82,773,588	kgp23043657	82,774,663	seen at relapse
37D	12	1+0	kgp10375949	24,952,242	rs10771123	24,955,175	rs9300165	25,132,771	kgp6920771	25,136,905	seen at relapse
37D	12	1+0	kgp30719	64,995,096	kgp18983775	65,002,654	kgp27765693	65,076,020	kgp18787624	65,078,725	seen at relapse

37D	12	0 copies	rs11175668	65,579,873	kgp1854420	65,582,806	rs11175679	65,605,173	rs1909340	65,608,683	seen at relapse
37D	12	1+0	kgp2622246	92,212,664	kgp2778568	92,213,242	kgp795294	92,277,336			seen at relapse
37D	12	0 copies	kgp795294	92,277,336	rs11834329	92,278,448	kgp3442555	92,537,846	rs11554835	92,537,797	seen at relapse
37D	19	1+0	rs8111860	36,700,154	rs12459704	36,707,022	rs826262	37,419,442	rs551717	37,427,879	seen at relapse
38D	2	2+1				pter		qter			
38D	3	2+1				pter		qter			
38D	3	0 copies	kgp1677844	75,408,458	kgp4711577	75,415,844	kgp22807961	75,667,875	kgp22731368	75,675,984	
38D	4	2+1				pter		qter			
38D	5	2+1				pter		qter			
38D	7	2+1				pter		qter			
38D	9	2+1				pter		qter			
38D	13	2+1				pter		qter			
38D	14	2+1				pter		qter			
38D	15	2+1				pter		qter			
38D	16	2+1				pter		qter			
38D	17	2+1				pter		qter			
38D	20	2+1				pter		qter			
39D	3	UPD				pter		qter			
39D	4	UPD				pter		qter			
39D	5	2+1				pter		qter			
39D	6	2+1				pter		qter			
39D	7	UPD				pter		qter			
39D	8	UPD				pter		qter			
39D	9	UPD				pter		qter			
39D	9	UPT	rs10123531	130,460,971	rs1756008	130,468,573	rs4837291	131,397,479	rs2298045	131,403,096	
39D	10	2+1				pter		qter			
39D	12	1+0	rs1389296	86,563,822	rs839150	86,598,519	rs17014005	86,813,440	rs6538042	86,855,857	
39D	13	UPD				pter		qter			
39D	14	UPD				pter		qter			
39D	15	UPD				pter		qter			
39D	16	UPD				pter		qter			
39D	17	UPD				pter		qter			
39D	18	2+1				pter		qter			
39D	20	UPD				pter		qter			

39D	21	2+1				pter		qter			
39D	22	UPD				pter		qter			
39D	X	2+1	rs5907955	140,559,665	rs5954362	140,673,423	qter				
		subclonality									
40D	6	3 copies				pter		qter			
40D	9	UPD				pter	rs10973183	37,066,231	rs10814515	37,193,871	
40D	9	0 copies	kgp18670935	21,961,603	kgp18450673	21,965,073	kgp27488128	21,992,333	kgp10343648	21,994,101	
41D	7	1+0	kgp8618488	50,411,467	kgp13496783	50,413,334	kgp39633882	50,517,271	kgp5264048	50,524,208	seen at relapse
41D	12	1+0	kgp3740302	92,276,930	rs11834329	92,278,448	kgp18808582	92,544,321	kgp27726480	92,546,889	seen at relapse
41D	20	1+0	kgp12071866	10,412,010	kgp4580397	10,413,126	rs1232597	10,605,631	kgp5499363	10,606,380	seen at relapse
41D	21	1+0	rs2251826	36,235,739	kgp8917733	36,236,101	kgp11014156	36,423,454	kgp7395453	36,433,00	seen at relapse
42D	7	1+0	rs7781977	50,346,134	rs10244023	50,347,402	rs6952409	50,462,935	kgp12471039	50,463,757	
42D	9	1+0	rs3731238	21,975,561	kgp715764	21,975,807	rs3217976	22,008,439	rs3217973	22,009,960	seen at relapse
42D	9	1+0	kgp7339501	36,919,139	kgp11146839	36,921,921	kgp5622959	37,027,092	rs3739440	37,031,074	seen at relapse
		subclonality									seen at relapse
42D	8	3 copies				pter	kgp9194102	29,950,688	kgp28642331	30,039,963	
		subclonality									
43D	9	3 copies				pter	kgp6178801	22,300,493	rs944037	22,382,449	
		subclonality									
43D	10	3 copies				pter		qter			
43D	10	1+0	kgp1721597	63,611,354	kgp22795653	63,623,995	kgp5862130	65,570,347	rs2688810	65,575,103	
43D	10	1+0	rs7905711	97,363,344	kgp8280412	97,471,769	kgp1745125	98,295,481			
43D	10	0 copies	kgp1745125	98,295,481	kgp1710743	98,298,719	kgp12015473	98,590,486	kgp21640606	98,593,484	
43D	10	1+0			kgp21640606	98,593,484	kgp1057729	99,145,090	kgp9846741	99,156,294	
43D	10	1+0	kgp9886964	125,713,892	kgp178323	125,721,865	rs12247671	126,575,210	kgp8722141	126,576,503	
43D	12	1+0	kgp9700092	1,777,272	rs10773983	1,831,246	rs4759197	56,285,743	kgp8404705	56,312,226	
		subclonality									
43D	13	3 copies				pter		qter			
43D	17	2+1				pter		qter			
43D	19	2+1				pter		qter			
44D	2	2+1				pter		qter			
44D	7	1+0	kgp1933560	50,313,178	kgp13440079	50,316,031	rs10235796	50,462,637	kgp642881	50,465,654	

44D	13	1+0	kgp11037650	50,183,204	kgp6442374	50,211,420	kgp4808478	50,734,294	rs2066604	50,734,704
		subclonality								
44D	16	3 copies				pter		cen		
44D	16	1+0				cen	kgp12139500	68,591,715	rs17689437	68,600,351
44D	20	1+0	kgp19366704	35,383,823	rs6016420	35,384,843	kgp1393621	58,931,050	kgp5855859	58,932,670
45D	3	1+0	rs1881925	108,961,389	kgp10272332	108,968,538	kgp12572906	109,089,439	rs9830640	109,092,384
45D	5	2+1				pter		qter		
46D	1	UPD				pter		cen		
46D	7	1+0				pter	kgp13494943	52,679,578	kgp13305989	52,681,050
46D	7	1+0	rs17151202	76,921,114	kgp3113430	76,922,123	qter			
47D	2	1+0	kgp14653838	56,909,029	kgp14950324	56,911,525	kgp8112054	57,057,785	kgp24415745	57,058,635
48D	9	1+0	kgp9948003	28,188,781	kgp9517443	28,189,782	kgp11640637	28,348,133	kgp6581898	28,354,327
49D	7	2+1				pter		cen		
49D	8	2+1	kgp10042948	108,101,769	kgp12437042	108,117,415	rs6993722	108,575,039	kgp10938578	108,632,126
49D	9	2+1				pter	kgp4859678	33,447,306	kgp8141677	33,487,198
49D	9	2+1	rs1080750	34,581,525	rs10972201	34,707,373	cen			
49D	13	1+0	rs17573310	44,815,947	kgp2238849	44,831,393	rs9533868	45,039,441	rs11147952	45,043,884
50D	5	2+1				qter	rs17841488	154,203,121	rs2434217	154,214,852
50D	8	2+1				cen		qter		
50D	9	1+0	kgp6808849	36,742,960	kgp18501982	35,743,150	kgp18247203	36,971,421	rs10814496	36,975,108
50D	14	UPD				kgp10868120	75,717,439	qter		
51D	7	1+0	rs12112419	50,340,021	kgp9037078	50,342,681	kgp12235910	50,367,495		
51D	7	0 copies	kgp10961940	50,411,987	kgp13496783	50,413,334	rs6952409	50,462,935	kgp502789	50,464,756
51D	8	1+0				pter	kgp28723237	41,512,040	kgp20220134	41,512,488
51D	8	2+1				kgp20220134	41,512,488	qter		
51D	13	0 copies	rs198604	48,984,063	rs4151547	48,984,865	kgp10010979	49,072,945	kgp16767774	49,075,495
52D	13	2+1	rs11147730	39,321,442	rs9594293	39,370,595	qter			
53D	7	1+0				pter		qter		
53D	11	1+0	rs7117563	111,216,143	rs10502141	111,221,554	kgp831450	117,762,288	rs558247	117,767,498
53D	20	1+0	rs6073063	41,987,968	kgp6986357	41,989,275	kgp6597785	55,920,141	kgp3847720	55,955,567
53D	21	2+1	kgp5775743	38,673,284	rs2835695	38,674,544	kgp1198561	41,020,324	kgp22772720	41,021,583
53R	7	2+1	kgp7163338	72,825,125	rs2237279	72,861,849	kgp717702	98,902,213		
53R	7	1+0				kgp717702	98,902,213	qter		
53R	8	2+1				pter		qter		
54D	2	2+1	kgp9991862	59,645,666	rs17050170	59,668,401	kgp10970091	60,744,458	rs971742	60,800,641
54D	4	2+1				pter		qter		
54D	6	2+1				pter		qter		
54D	9	1+0	rs10959919	11,549,994	kgp2872958	11,659,198	kgp18291043	12,215,406	rs1928863	12,250,170

54D	9	1+0	rs4382559	21,944,818	kgp12433967	21,945,288	rs10738604	22,025,493	kgp11263572	22,027,563
54D	9	2+1	rs1414234	21,712,193	kgp568215	21,804,886	rs10811984	23,859,906	kgp6338648	23,935,686
54D	12	2+1				pter		qter		
54D	13	UPD				pter		qter		
54D	17	2+1				pter		qter		
54D	20	2+1				pter		qter		
54D	21	2+1				pter		qter		
54D	X	2+1				pter		qter		
55D	9	1+0				pter		cen		
55D	9	0 copies	kgp715764	21,975,807	kgp10311555	21,976,402	rs3217976	22,008,439	rs3217973	22,009,960
55D	20	1+0				cen		qter		
56D	2	1+0	kgp6624663	58,994,651	kgp8517806	58,996,601	kgp919154	59,229,456	kgp34755334	59,231,396
56D	7	1+0	kgp7219964	50,339,829	rs9886239	50,336,551	rs694823	50,460,096	kgp642881	50,465,654
56D	16	1+0				cen		qter		
56D	19	1+0				pter	kgp3662943	4,550,383	rs7255247	4,597,413
56D	19	2+1	kgp2505584	6,709,848	kgp4371969	6,727,882	rs2074303	19,381,755	rs37645467	19,440,066
57D	1	2+1	kgp11600481	198,640,167	kgp4397050	198,663,346	rs12121465	199,062,422	kgp383418	199,070,859
57D	5	1+0	kgp2406225	125,877,374	kgp4000564	125,880,589	rs10055344	126,249,669	rs10900789	126,275,590
58D	9	UPD				pter	rs2800257	36,805,874	rs2851701	36,809,712
58D	9	0 copies	kgp3211059	21,089,414	rs10757181	21,093,083	kgp2769561	23,518,799	kgp2747976	23,522,134
58D	12	2+1				pter		qter		
58R	9	2+1				pter	kgp5262142	21,067,592	kgp3407982	21,096,166
58R	9	2+1	rs1330927	23,431,906	rs10811933	23,488,018	cen			
59D	2	1+0	kgp14216554	136,869,523	kgp14167105	136,871,666	kgp11621605	137,067,635	kgp6471247	137,068,236
59D	3	1+0	kgp8941472	42,406,870	kgp18166904	42,409,746	kgp11012187	45,032,222	rs4683017	45,034,411
59D	3	1+0	kgp5880790	185,969,229	rs16869640	185,970,173	rs713484	186,289,673	rs7609902	186,292,299
59D	4	1+0	kgp12426368	178,214,311	rs170645654	178,214,726	kgp4508363	178,589,905	kgp11647433	178,592,402
59D	4	1+0	kgp4564026	182,164,345	rs17070839	182,170,424	kgp3592371	182,329,102	kgp9423219	182,336,202
59D	5	1+0	rs368686	180,016,644	kgp2244408	180,019,284	kgp22507216	180,077,708	kgp5216944	180,078,772
59D	6	1+0	kgp6002192	106,504,748	kgp17092714	106,508,291	kgp11425254	109,217,059		
59D	6	0 copies	kgp11425254	109,217,059	kgp26179111	109,217,488	kgp17267361	109,330,180	kgp9301657	109,334,007
59D	6	1+0			kgp9301657	109,334,007	kgp121172	111,438,634	kgp619348	111,439,275
59D	7	1+0	kgp11529587	50,228,986	kgp13305079	50,229,622	kgp4485521	50,450,446	kgp6241037	50,451,642
59D	8	2+1	kgp363409	130,524,452	rs7016061	130,525,809	rs4517087	130,727,351	kgp5431321	130,758,181
59D	9	1+0	kgp12464351	21,517,302	kgp854940	21,518,275	kgp8422926	21,567,651		
59D	9	0 copies	kgp8422926	21,567,651	kgp27162419	21,568,365	kgp18348273	23,404,316	kgp10532529	23,404,400
59D	9	1+0	kgp18348273	23,404,316	kgp10532529	23,404,400	kgp18620885	24,019,220	rs10125108	24,020,855
59D	9	1+0	rs7033900	36,130,245	kgp12310125	36,131,635	kgp2800167	37,132,463		

59D	9	0 copies	kgp2800167	37,132,463	kgp6032036	37,134,601	kgp10141809	37,288,483	rs10973289	37,289,932
59D	9	1+0	kgp10141809	37,288,483	rs10973289	37,289,932	kgp8181558	37,733,083	kgp22810470	37,743,223
59D	9	1+0	kgp11879287	116,970,434	kgp18531650	117,002,566	kgp6483650	117,533,511	kgp11968843	117,543,895
59D	10	1+0	kgp21792075	98,432,789	kgp21571436	98,432,898	kgp1655935	98,477,849		
59D	10	0 copies	kgp1655935	98,477,849	rs682304	98,478,317	kgp12015473	98,590,486	kgp21640606	98,593,484
59D	12	1+0	rs4768118	46,784,744	kgp150495	46,789,543	kgp6730594	47,055,582	kgp19104925	47,057,433
59D	13	0 copies	rs198604	48,984,063	rs4151547	48,984,865	kgp16786668	49,175,264	rs9595937	49,176,935
59D	17	UPD	rs11657114	25,776,552	kgp6153478	25,785,431		qter		
59D	17	0 copies	kgp6330627	29,545,048	rs984125	29,547,254	rs12602834	29,637,308	rs17884633	29,640,062
59D	17	0 copies	kgp1413995	33,680,840	kgp23862717	33,680,945	kgp13875968	33,768,284	kgp5942931	33,768,601
60D	7	1+0	kgp4465937	50,365,063	rs1176988	50,417,522	rs11763774	50,462,138	kgp642881	50,456,654
60D	19	1+0	kgp5801218	1,004,311	rs713041	1,106,615	kgp9392695	3,455,792	rs10411250	3,592,855
60D	19	1+0	rs8757504	46,993,486	kgp9132027	47,030,234	kgp1864392	48,304,700	kgp262782	48,390,424
61D	4	2+1				pter	kgp5980982	11,950,316	kgp2928842	12,045,108
61D	5	1+0	kgp22294066	104,051,323	kgp8983797	104,060,025	kgp22549067	104,412,907	kgp30375096	104,413,590
61D	6	2+1	kgp767545	135,461,866	rs2050019	135,463,947	rs17064526	135,773,225	kgp17342012	135,785,262
61D	13	2+1	rs9524885	95,935,589	rs7986283	95,937,149	kgp11005331	96,033,990	kgp3861389	96,044,502
61D	16	1+0				pter	kgp8040080	2,673,340	kgp9074238	2,697,734
61D	17	UPD	rs3102555	28,044,101	kgp230364024	28,066,010		qter		
		subclonality								
62D	4	3 copies				pter		qter		
62D	6	2+1				pter		qter		
		subclonality								
62D	8	3 copies				pter		qter		
62D	9	2+1				pter	kgp7550416	133,663,242	kgp3823158	133,702,121
62D	9	UPT	kgp7550416	133,663,242	kgp3823158	133,702,121	qter			
62D	10	2+1				pter		qter		
		subclonality								
62D	14	3 copies				pter		qter		
62D	16	UPD				pter		qter		
62D	18	2+1				pter		qter		
62D	19	2+1				pter		qter		
		subclonality								
62D	20	3 copies				pter		qter		
62D	22	2+1				pter	kgp15099886	23,560,812	kgp7561495	23,561,877
62D	X	1+1				pter		qter		
63D	6	2+1				pter		qter		
63D	9	1+0	rs3928894	21,818,310	kgp7327342	21,825,470	kgp4821134	21,903,143		

63D	9	0 copies	kgp4821134	21,903,143	kgp18332900	21,905,625	kgp18375701	21,987,472	rs7036656	21,990,457
63D	9	1+0			rs7036656	21,990,457	kgp5270716	22,035,579	kgp2814067	22,039,601
63D	10	2+1				pter		qter		
63D	11	1+0	kgp2770394	63,495,583	kgp12832332	63,499,967	kgp5015941	63,817,468	kgp12625528	63,820,506
63D	18	2+1				pter		qter		
63D	21	2+1				pter		qter		
63D	X	2+1				pter		qter		
64D	1	2+1	rs6670655	164,739,171	rs2171690	164,740,099		qter		
64D	6	UPD				pter	rs9379829	26,172,219	kgp8223613	26,248,048
64D	19	1+0				pter	kgp8943653	1,621,261	kgp1739576	1,624,007
65D	3	1+0				cen		qter		
65D	9	UPD				pter		cen		
65D	9	0 copies	kgp27507568	21,325,691	rs913931	21,327,141	rs9333353	21,411,631	rs1332180	21,413,085
65D	9	0 copies	rs10811629	21,840,298	kgp18455528	21,845,556	rs1095898	22,189,716	kgp5173940	22,190,974
65D	9	0 copies	kgp6552374	22,261,831	kgp18569246	22,265,748	kgp2117981	24,247,436	kgp7052642	24,248,752
65D	9	0 copies	kgp6710312	24,748,262	kgp10053167	24,749,214	kgp12370468	25,336,436	kgp11385239	25,337,791
65D	12	1+0				pter	kgp6361478	27,662,884	rs2289710	27,677,087
		subclonality								
66D	1	3 copies				pter	kgp122278748	24,587,492	kgp5663873	24,633,397
66D	1	2+1	kgp25288712	203,810,130	kgp4979060	203,988,840	rs4649261	233,944,248	kgp1009263	233,970,186
66D	1	UPD	rs4649261	233,944,248	kgp1009263	233,970,186		qter		
66D	3	1+0	rs7624894	25,642,157	kgp2899985	25,643,453	kgp27014896	26,609,499	kgp26937154	26,655,959
66D	3	1+0	rs4973842	27,026,003	kgp1276674	27,083,710	kgp26753547	62,167,550	rs11712908	62,272,627
66D	3	1+0	kgp7825804	68,038,785	kgp17801660	68,134,236	kgp6802366	75,301,249	kgp26834079	75,589,495
66D	3	1+0	rs1514441	96,101,269	kgp8320027	96,110,892	kgp5422623	98,146,969	rs9882767	98,175,411
66D	3	1+0	kgp26910495	103,267,780	kgp17581590	103,392,288	kgp1627516	112,878,679	rs11718413	112,906,970
66D	3	1+0	rs9831691	127,251,527	kgp6023216	127,267,627	kgp7487225	146,666,467	kgp10627633	146,677,741
66D	3	1+0	rs6810129	163,240,717	kgp27147251	163,284,285	rs2280524	167,812,736	rs7610695	167,904,894
66D	4	1+0				pter		qter		
66D	5	1+0				pter		qter		
66D	7	1+0	kgp6213393	68,907,980	kgp11774274	68,933,287		qter		
		subclonality								
66D	9	3 copies				pter		qter		
66D	11	1+0	kgp8901190	35,530,266	kgp10513894	35,548,216	kgp11221218	41,943,687	kgp11662513	42,140,486
66D	11	2+1	rs11236588	75,678,647	kgp8226415	75,796,446	rs1436622	91,058,898		
66D	11	UPD	rs1436622	91,058,898	kgp12953114	91,179,018	kgp7301303	94,617,660	rs11020975	94,676,429
66D	11	2+1				rs11020975	94,676,429	kgp2137191	118,442,371	
66D	11	UPD				kgp1249724	118,478,681	kgp11526438	125,820,846	kgp2106902 125,875,834

66D	11	2+1			kgp2106902	125,875,834	qter				
66D	13	1+0	kgp26008964	42,041,193	kgp8692078	42,078,610	kgp9660171	49,382,008	rs9526501	49,419,880	
66D	13	1+0	rs913397	111,062,260	kgp7126615	111,060,438	qter				
66D	16	1+0			pter		qter				
66D	17	1+0			pter		kgp11913536	35,218,818	rs8082616	35,250,306	
66D	17	1+0	kgp4340439	52,213,958	kgp8957592	52,266,360	kgp2606317	72,791,266	rs939543	72,792,184	
66D	17	1+0	kgp5261838	73,647,138	GA032979	73,738,572	qter				
66D	18	1+0			pter		kgp1755758	3,324,360	kgp9268911	3,353,012	
66D	18	1+0	rs882838	6,429,648	kgp4045356	6,464,054	cen				
66D	18	1+0	kgp4747347	38,658,319	rs9954864	38,861,624	kgp16104433	46,194,197	kgp7422429	46,313,284	
67D	1	2+1			pter		qter				
67D	2	UPD			pter		qter				
67D	3	UPD			pter		qter				
67D	4	UPD			pter		qter				
67D	5	2+1			pter		qter				
67D	6	2+1			pter		qter				
67D	7	UPD			pter		qter				
67D	8	UPD			pter		qter				
67D	9	UPD			pter		qter				
67D	10	2+1			pter		qter				
67D	11	2+1			pter		qter				
67D	12	UPD			pter		qter				
67D	13	UPD			pter		qter				
67D	14	UPD			pter		qter				
67D	15	UPD			pter		qter				
67D	16	UPD			pter		qter				
67D	17	UPD			pter		qter				
67D	18	2+1			pter		qter				
67D	19	2+1			pter		qter				
67D	20	UPD			pter		qter				
67D	X	1+1			pter		qter				
68D	7	1+0			pter		kgp1346925	55,763,303	kgp4356434	55,825,906	
68D	9	1+0			pter		cen				
69D	4	1+0	rs4245924	108,946,378	rs3796992	108,945,631	kgp12114387	109,089,824	rs68654803	109,095,552	
69D	5	1+0	rs1946836	142,587,831	kgp22233342	142,605,746	rs918377	143,197,848	rs12519988	143,211,589	
69D	6	1+0	kgp12224443	90,520,426	kgp2424651	90,535,467	rs4707609	90,946,479	rs2174281	90,987,872	
69D	8	1+0	rs6468095	32,164,476	kgp9089143	32,193,643	kgp22772271	33,366,200	kgp1439693	33,374,265	
69D	9	1+0			pter		cen				

69D	9	0 copies	kgp27435374	21,818,169	kgp7327342	21,825,470	rs2069421	22,008,313	rs3217976	22,008,439	
69D	12	1+0	rs12369683	92,272,344	kgp4849951	92,290,429	kgp7294684	92,532,507	kgp1413692	92,539,460	
69D	13	0 copies	kgp11872384	48,982,973	rs4151547	48,984,865	kgp22792065	49,063,742	rs9332079	49,063,874	
70D	1	2+1	kgp9483410	153,339,314	kgp1114017	153,339,782	qter				seen at relapse
70D	5	1+0	kgp3650770	88,116,405	kgp2558322	88,117,494	rs9986241	88,374,038	kgp7638504	88,381,712	seen at relapse
70D	6	2+1				pter		qter			
70D	6	1+0	kgp6852631	76,260,312	kgp17512068	76,262,748	rs2297698	76,312,315	kgp5922814	76,315,626	seen at relapse
70D	7	1+0	kgp10961940	50,411,987	kgp13496783	50,413,334	rs7792486	50,486,309	kgp5144338	50,486,427	seen at relapse
70D	8	2+1	rs11780253	18,892,362	rs6985805	18,914,420	rs13265589	19,237,690	kgp7721173	19,239,747	seen at relapse
70D	9	2+1	rs11244147	133,677,168	kgp3544937	133,700,786	qter				seen at relapse
70D	12	1+0	kgp9360328	31,825,120	kgp4286180	31,840,727	kgp18962995	32,480,499	rs1471909	32,491,626	seen at relapse
70D	19	1+0				pter	kgp2221757	4,358,306	rs243254	4,370,485	seen at relapse
70D	19	2+1	kgp2221757	4,358,306	rs243254	4,370,485	kgp10287331	7,872,815			seen at relapse
70D	19	2+1	rs756792	19,231,204	rs7253352	19,253,197	qter				seen at relapse
70D	19	1+0	kgp8727500	20,601,335	kgp21500385	20,605,213	kgp578458	20,717,536	kgp4997860	20,718,734	seen at relapse
70D	19	1+0	rs2891868	36,978,184	kgp11556401	36,980,316	rs8108848	37,019,742	kgp7195082	37,024,770	seen at relapse
70D	22	2+1				pter	rs5749696	22,063,337	kgp6253308	22,035,555	seen at relapse
70R	6	2+1	rs2502473	75,367,272	rs2502505	75,383,825	qter				
70R	13	2+1	rs383298	62,918,940	kgp6802323	63,095,674	qter				
70R	17	1+0	kgp2191632	28,051,140	kgp543092	28,058,946	rs2287352	35,605,294	rs2542656	35,625,244	
71D	3	1+0				pter		qter			
71D	6	0 copies	kgp17144483	78,964,384	rs818249	78,973,201	kgp1698345	79,035,739	kgp4571045	79,038,392	
71D	7	1+0				pter		qter			
71D	7	0 copies	kgp8571137	50,342,811	GA006371	50,344,474	kgp5862881	50,474,377	rs4077492	50,475,643	
71D	9	1+0				pter	kgp18634330	133654670	kgp27219375	133663037	

71D	9	UPD	kgp18634330	133654670	kgp27219375	133663037	qter			
71D	16	2+1	kgp1646718	56,643,594	kgp5214966	56,643,517	rs4784712	56,716,798	rs11076164	56,719,404
71D	16	1+0	kgp1487035	57,822,523	kgp4454241	57,850,806	qter			
71D	22	2+1				pter	rs5759670	23,614,426	rs7288846	23,623,284
72D	2	2+1				pter		qter		
72D	3	UPD				pter		qter		
72D	4	UPD				pter		qter		
72D	5	UPD				pter		qter		
72D	6	2+1				pter		qter		
72D	7	UPD				pter		qter		
72D	9	UPD				pter		qter		
72D	10	2+1				pter		qter		
72D	13	UPD				pter		qter		
72D	14	2+1				pter		qter		
72D	15	UPD				pter		qter		
72D	16	UPD				pter		qter		
72D	17	UPD				pter		qter		
72D	18	2+1				pter		qter		
72D	20	UPD				pter		qter		
72D	21	2+1				pter		qter		
72D	22	2+1				pter		qter		
73D	5	1+0	rs10482619	142,780,844	rs10482617	142,781,168	rs7724289	142,859,606		
73D	5	0 copies	rs7724289	142,859,606	kgp22342693	142,861,367	kgp22594762	142,865,795	kgp22555789	142,866,446
73D	5	1+0			kgp22555789	142,866,446	kgp551803	142,983,275	rs1700459	142,984,844
73D	9	1+0	kgp3443938	21,937,687	kgp3629876	21,945,541	kgp11658790	21,972,663		
73D	9	0 copies	kgp11658790	21,972,663	rs3731241	21,973,767	rs206421	22,008,313	rs3217976	22,008,439
73D	10	1+0	kgp538398	91,649,348	rs12782553	91,649,717	kgp371519	91,885,923	rs10881756	91,887,628
73D	12	0 copies	kgp795294	92,277,336	rs11834329	92,278,448	kgp3442555	92,537,846	kgp27794480	92,538,189
73D	14	1+0	kgp5814425	52,774,927	kgp242364	52,776,485	kgp28229694	52,823,745	kgp19667732	52,824,129
74D	9	UPD				pter		cen		
75D	3	1+0	kgp1548254	75,404,144	kgp9706418	75,413,917	kgp22789691	75,682,577	kgp22770315	75,691,393
75D	9	1+0				pter		cen		
75D	9	0 copies	kgp1983746	19,893,006	kgp515236	19,896,247	kgp10777860	22,261,910	kgp201978	22,265,586
75D	9	2+1				cen		qter		
75D	14	0 copies	kgp28093665	41,608,400	kgp4375140	41,615,839	kgp19467635	41,661,685	kgp19730332	41,669,797
76D	1	1+0	kgp5662190	196,740,168	kgp25103109	196,757,569	kgp24851734	196,902,339	rs9427649	196,916,453
76D	13	0 copies	kgp25876250	64,255,721	kgp8157498	64,256,582	kgp26005996	64,370,739	kgp16729684	64,373,347

77D	3	0 copies	kgp168236	72,495,467	kgp8108241	72,495,777	kgp1807669	72,571,549	rs4677179	72,571,732	
77D	5	0 copies	kgp4383899	51,987,519	kgp9052119	51,989,647	kgp22716706	52,084,300	kgp22516215	52,084,569	
77D	7	1+0	rs10272724	50,471,213	kgp8845325	50,471,407	kgp5144338	50,486,427	kgp4145447	50,487,534	
77D	12	1+0	kgp795294	92,277,336	rs11834329	92,278,448	kgp8376811	92,537,706	kgp4062741	92,538,673	
77D	13	0 copies	kgp11872384	48,982,973	kgp22763174	48,983,706	kgp16783575	49,076,933	kgp6968693	49,078,866	
78D	1	1+0	rs1054680	112,021,029	kgp6323630	112,024,624	kgp12447995	112,154,072	kgp7918898	112,163,761	seen at relapse
78D	1	2+1				cen		qter			seen at relapse
78D	3	1+0	rs7612537	75,438,104	kgp4124171	75,446,373	kgp22807961	75,667,875	kgp22731368	75,675,984	seen at relapse
78D	3	2+1				pter		cen			seen at relapse
78D	5	2+1				pter		cen			seen at relapse
78D	8	2+1				pter		qter			seen at relapse
78D	10	subclonality 3 copies				pter		qter			seen at relapse
78D	X	subclonality 3 copies				pter		qter			seen at relapse
78R	2	subclonality 1+0	kgp3386628	21,428,049	kgp3648957	21,449,098	rs918812	23,988,899	kgp6384718	24,005,931	
78R	2	subclonality 1+0	kgp12481724	73,537,350	kgp114700	73,547,613	rs1075054	75,808,132	rs10166482	75,964,293	
78R	2	subclonality 1+0	kgp6186771	127,556,046	kgp6997821	127,560,722	kgp7636930	132,061,877	rs6414023	132,077,379	
78R	9	2+1				qter		pter			
78R	15	subclonality 1+0	rs1378942	75,077,367	rs12912691	75,251,302	qter				
79D	3	1+0	kgp7146514	105,464,044	kgp6727891	105,470,886	rs9859768	106,231,571	rs1373732	106,232,264	
79D	7	subclonality 3 copies				pter		qter			
79D	8	1+0	kgp4169505	94,125,379	kgp10231298	94,145,256	kgp493380	98,990,399	kgp10898807	99,008,727	
79D	8	1+0	kgp3095461	103,564,457	kgp11630046	103,567,268	kgp20622496	103,818,297	kgp144131	103,821,150	
79D	9	1+0				pter		cen			
79D	17	subclonality 3 copies				pter		cen			

79D	20	1+0				cen		qter			
79D	21	2+1				pter		qter			
80D	12	1+0	rs12301529	24,956,287	rs1872644	24,967,157	rs10771146	25,094,970	rs9300165	25,132,771	
80D	13	1+0	rs1330102	44,845,243	rs10400629	44,852,020	rs376887	45,010,653	rs6561176	45,015,449	
80D	18	1+0	kgp4525183	1,718,459	kgp1826271	1,724,919	rs1439432	1,839,387	rs9955276	1,839,339	
81D	6	2+1				pter		qter			
81D	7	2+1				pter	rs273172	41,461,200	rs273156	41,516,677	
81D	7	2+1	rs799161	73,059,990	rs28452991	73,124,406	qter				
81D	8	2+1				pter		qter			
81D	17	2+1				cen		qter			
81D	X	2+1				pter		qter			
82D	8	2+1				pter		qter			
83D	1	1+0				pter	rs6693965	10,378,416	rs10864453	10,407,169	
		subclonality									
83D	1	3 copies	rs1332688	158,565,115	rs7529510	158,725,913	qter				
83D	12	2+1				pter		qter			
83D	16	1+0	rs4240810	85,625,127	rs4843971	85,663,242	qter				
83D	X	1+0	rs12006893	21,525,415	cnvi0161696	21,546,980	rs12014633	23,694,515	rs11797996	23,718,098	
83D	X	1+0	rs5974183	113,180,737	rs2188757	113,197,425	rs12689037	133,513,350	rs12558458	133,513,764	
83D	Y	0 copies				pter		qter			
84D	1	1+0	rs12119445	85,467,130	rs12730329	85,481,700	rs9661113	118,799,439	rs12044199	118,815,799	
84D	6	1+0	rs7751421	78,422,012	rs16889371	78,439,540	rs9400576	113,217,970	rs9398324	113,219,354	
84D	9	1+0	rs4448374	20,563,365	rs12380857	20,578,041	rs1332190	21,438,684			
84D	9	0 copies	rs1332190	21,438,684	rs34116439	21,441,308	rs7859974	23,024,202	rs7870973	23,041,233	
84D	9	1+0			rs7870973	23,041,233	rs10113990	23,231,298	cnvi0147264	23,233,667	
		subclonality									
84D	9	3 copies	rs11790640	125,572,504	rs10465141	125,805,913	qter				
84D	12	1+0	kgp22854393	7,308,992	rs7296261	7,309,199	rs796094	26,629,368	rs7963493	26,635,075	
84D	14	1+0	rs7493960	99,578,217	rs7160815	99,582,796	rs11160553	100,331,876	rs1191120	100,341,982	
84D	16	1+0	rs397330	3,243,904	rs548927	3,257,868	rs384067	4,144,811	rs437115	4,156,423	
84D	18	0 copies	kgp12036503	12,776,249	kgp8884786	12,777,815	rs2276378	12,892,169	rs4616352	12,898,134	
84D	19	1+0	rs1056995	42,591,484	rs1205817	42,603,776	rs19419612	43,318,068	rs7249066	43,323,314	
84D	19	2+1	rs724276	43,701,009	rs10423013	43,758,583	rs10413675	44,364,177	kgp7023782	44,590,002	
85D	2	1+0	kgp3025645	112,924,907	kgp4414276	112,927,348	kgp2590699	113,228,788	rs6729910	113,229,110	
85D	2	1+0	kgp9111575	232,459,327	kgp14453458	232,461,078	kgp4127927	237,751,372	rs1000007	237,752,054	
85D	2	1+0	rs10929238	238,509,820	kgp1400605	238,510,514	kgp11348544	242,999,159	kgp318367	242,999,350	
85D	5	1+0	rs3850908	98,936,840	kgp22426889	98,937,854	qter				seen at relapse

85D	6	1+0	kgp7311383	40,608,508	kgp5966744	40,609,391	kgp8377992	41,321,232	kgp11378389	41,323,154	
85D	8	2+1	rs1480890	93,334,453	kgp12230312	93,345,304	qter				seen at relapse
85D	9	2+1				pter		qter			
85D	12	1+0	rs17179617	5,293,556	kgp27594975	5,293,941	rs4149126	21,017,036			
85D	12	0 copies	rs4149126	21,017,036	rs4149127	21,017,288	kgp2289465	21,036,786	kgp19075016	21,036,922	
85D	12	1+0			kgp19075016	21,036,922	kgp2006237	24,932,017	kgp8519615	24,933,574	
85D	12	1+0	kgp9719044	102,266,326	kgp582098	102,267,479	kgp1933059	106,156,001	kgp18689282	106,158,178	
85D	13	1+0	kgp26051607	49,857,301	kgp16752664	49,858,213	kgp26036743	52,382,868	rs12018110	52,383,895	
85D	16	1+0				pter	rs17523310	5,121,692	kgp1725998	5,122,503	seen at relapse
85D	16	1+0	kgp10831389	15,469,929	kgp10395407	15,479,879	rs2606562	18,807,445	kgp10039469	18,808,727	seen at relapse
85D	17	2+1	rs17659953	44,159,725	kgp12499137	44,161,470	kgp10756368	44,334,052	kgp1636718	44,349,079	seen at relapse
85D	19	1+0	kgp379657	3,172,002	rs2875853	3,174,338	kgp3075995	3,582,479	kgp10899012	3,586,039	
		subclonality									
85R	5	3 copies				pter	rs3850908	98,936,840	rs10036544	98,994,964	
85R	8	1+0				pter		cen			
85R	8	2+1				cen		qter			
86D	4	2+1				pter		qter			
86D	6	1+0	rs6925021	156,588,729	rs9371978	156,568,138	rs4870490	157,127,825	rs287905	157,161,580	
		subclonal									
86D	14	1+0	rs17098146	99,467,622	rs11624936	99,481,973	rs10150710	99,719,680	rs2614461	99,747,991	
87D	2	1+0				pter	kgp3440674	68,434,246	rs1443649	68,466,618	
87D	2	2+1	kgp3440674	68,434,246	rs1443649	68,466,618	qter				
87D	7	2+1				pter		qter			
		subclonality									
87D	10	3 copies				cen		qter			
		subclonality									
87D	11	3 copies	kgp1327994	78,603,002	kgp23160873	78,664,290	rs681524	116,748,314	kgp9738462	116,801,422	
		subclonality									
87D	12	3 copies	kgp5980138	10,870,231	rs1548803	10,959,031	rs11056074	14,794,505	rs1050770	14,915,745	
		subclonality									
87D	19	3 copies				pter		qter			
88D	1	1+0	kgp11789346	5,273,276	kgp4641785	5,276,014	rs10864390	9,182,914	rs4908812	9,185,660	seen at relapse

88D	5	subclonality 3 copies				pter		cen			
88D	5	subclonal 1+0	kgp11591664	52,347,369	rs3212509	52,348,256	rs17444059	58,560,717	rs27723	58,564,232	
88D	5	subclonal 1+0	rs12516375	66,442,385	kgp5975066	66,447,913	qter				
88D	9	subclonal 1+0	kgp5405808	94,626,039	rs1178730	94,631,730	rs13299979	128,625,923	rs7849076	128,640,702	
88D	11	UPD				pter	kgp12596482	47,008,971	kgp3374897	47,570,611	seen at relapse
88D	12	1+0	kgp27754065	6,700,611	kgp27563743	6,701,085	kgp8886821	20,274,882	kgp3806194	20,274,936	seen at relapse
88D	15	1+0	rs4575496	40,649,590	rs1007177	40,651,838	kgp453794	43,745,717	kgp22749098	43,479,149	seen at relapse
88D	15	1+0	GA030615	74,219,072	kgp7711414	74,221,298	kgp7608598	76,141,600	rs2593275	76,144,981	seen at relapse
88D	21	subclonality 3 copies				pter		qter			
88D	X	2+1	kgp22811206	3,908,210	kgp22770461	3,942,553	kgp22746084	4,464,861	rs5961498	4,472,534	seen at relapse
88R	X	subclonality 3 copies				pter		qter			
89D	4	1+0				pter	kgp6923625	35,656,296	kgp29465733	35,658,082	
89D	5	1+0	rs7709907	117,830,130	kgp5721234	117,831,913	kgp438839	117,967,035	kgp22565417	117,967,049	
89D	9	UPD				pter		cen			
89D	9	0 copies	kgp6124220	19,899,209	rs4977349	19,899,443	rs2219849	22,195,820	kgp18330830	22,196,723	
89D	11	1+0	kgp2313421	33,922,163	kgp3351687	33,922,518	kgp3995324	36,671,669	kgp23103784	36,675,077	
89D	19	2+1	kgp5389524	49,051,636	kgp4799840	49,053,500	rs454715	49,114,236	rs12972713	49,204,978	
89D	19	1+0	rs3170100	52,888,620	kgp7763176	52,893,473	kgp908822	56,438,077	rs382958	56,439,438	
89D	20	2+1				pter	kgp11190828	17,111,967	kgp5898189	17,170,529	
90D	7	1+0	kgp134311583	18,871,174	kgp3178463	18,872,124	rs17135700	53,452,121	kgp13782693	53,453,976	
90D	10	1+0	kgp164413	16,488,454	kgp29937863	16,493,968	rs10828252	21,856,475	rs6482186	21,860,532	
90D	11	1+0	kgp1751803	20,145,607	rs832457	20,148,569	kgp8904860	32,423,412			
90D	11	0 copies	kgp8904860	32,423,412	rs5030244	32,423,752	kgp12838030	32,461,561	kgp274998	32,462,091	
90D	11	1+0			kgp274998	32,462,091	kgp13012557	32,943,480	kgp12988177	32,946,168	
90D	13	1+0	kgp16565530	89,774,097	kgp12135172	89,774,998	kgp11436823	90,665,715	kgp16812512	90,670,825	
90D	17	1+0	kgp3430756	51,697,317	rs976787	51,697,350	kgp9167976	52,072,584	kgp955996	52,073,313	
90D	19	1+0	kgp21463000	3,927,966	rs4807532	3,928,369	kgp4018266	4,355,203	GA105575	4,357,555	

90D	19	1+0	rs35863918	42,608,875	rs3786540	42,613,195	kgp3088249	42,749,345		
90D	19	0 copies	kgp3088249	42,749,345	rs1053650	42,751,771	kgp10548413	42,937,336	kgp21368366	42,937,953
90D	19	1+0			kgp21368366	42,937,953	kgp12288078	43,105,929	kgp2170767	43,107,280
91D	9	UPD				pter	rs4879753	34,143,307	rs7042499	34,162,975
92D	6	2+1				pter	kgp5120987	35,280,858	kgp4651303	35,288,696
92D	6	subclonality 3 copies	kgp10917108	135,672,211	rs17064595	135,813,920	qter			
92D	12	subclonality 3 copies				pter	kgp10759000	18,493,345	kgp4462845	18,513,390
92D	13	subclonality 3 copies				pter		qter		
92D	17	subclonality 3 copies				pter		cen		
93D	1	1+0	kgp10932868	6,175,417	kgp15655494	6,273,202	kgp2109001	7,045,225	kgp6978350	7,096,308
93D	4	2+1				qter	rs2726692	108,493,334	kgp393958	108,822,889
93D	4	UPD			kgp393958	108,822,889	qter			
93D	4	0 copies	kgp10063672	153,390,057	rs28410633	153,394,160	kgp21046045	153,615,296	kgp20686088	153,615,752
93D	5	1+0	rs2962407	160,908,195	rs11748071	160,921,545	kgp3520151	161,277,899	kgp9214381	161,297,795
93D	6	subclonality 3 copies	kgp836695	94,775,270	kgp360015	94,795,326	kgp8230833	120,762,058	kgp410345	120,790,347
93D	9	subclonality 3 copies				pter		qter		
93D	9	1+0	kgp10230342	20,806,987	rs10511681	20,823,617	kgp854946	21,718,992		
93D	9	0 copies	kgp854946	21,718,992	kgp27281813	21,758,458	rs451823	22,426,564	kgp3107003	22,454,028
93D	9	1+0			kgp3107003	22,454,028	kgp11894559	23,501,588	kgp12257890	23,506,377
93D	12	subclonality 3 copies				pter		qter		
93D	12	1+0	kgp3611883	12,121,211	kgp27652406	12,134,613	rs11057102	17,083,997	kgp10858410	17,112,493
93D	12	1+0	rs2942368	122,116,794	rs2942370	122,132,089	kgp2240297	123,352,653	rs4275659	123,447,928
93D	17	subclonality 3 copies				pter		qter		
93D	20	subclonality 3 copies				pter		qter		
94D	4	1+0	kgp6792458	166,953,579	rs17590344	166,960,364	kgp9010767	167,499,315	kgp12285010	167,506,573
94D	5	1+0	kgp30286949	169,828,023	kgp7466624	169,829,593	rs12654388	170,676,959	kgp10365600	170,677,813
94D	9	1+0	kgp11079543	21,289,173	rs10811527	21,293,829	kgp1665935	21,865,685	kgp18537686	21,862,316
94D	9	0 copies	kgp1665935	21,865,685	kgp18537686	21,862,316	kgp18275418	22,300,375		
94D	9	1+0	kgp18275418	22,300,375	kgp3983933	22,303,208	kgp3278968	22,317,269	kgp3591849	22,320,245

95D	4	1+0	kgp7445909	179,360,997	kgp10841822	179,361,801	kgp7207663	182,389,973	kgp21031941	182,390,661	
95D	9	1+0	kgp18632103	21,310,866	kgp3929855	21,313,004	kgp18392948	21,833,842			
95D	9	0 copies	kgp18392948	21,833,842	kgp8971051	21,834,210	kgp27488128	21,992,333	kgp18353646	21,994,101	
95D	9	1+0			kgp18353646	21,994,101	kgp5091874	22,424,662	kgp27315836	22,426,578	
95D	11	1+0	kgp8760533	33,911,730	kgp8827509	33,915,001	kgp967413	34,074,411	rs17771981	34,086,192	
95D	17	2+1	rs734612	33,138,545	rs234828	33,170,483	rs12452943	34,461,454	rs8067765	34,815,551	
95D	17	2+1	rs1963088	36,244,358	rs4359493	36,500,705	qter				
96D	1	2+1	kgp2106099	176,375,549	rs2504485	176,394,309	qter				
96D	6	1+0					pter	kgp6881160	8,872,427	kgp1768056	8,888,884
96D	12	2+1	kgp9800245	7,986,046	kgp3539291	8,021,191	rs7963223	8,161,503	kgp6533315	8,174,402	
96D	12	1+0	kgp256929	12,043,165	kgp9264773	12,043,677	kgp520043	12,046,429	kgp18704086	12,046,791	
96D	20	1+0	kgp6946255	60,868,251	kgp19398565	60,869,733	rs6061501	60,953,396	kgp6490268	60,956,238	
97D	Y	0 copies					pter	qter			
98D	1	1+0	rs4649397	232,763,723	rs6424243	232,768,148	rs12021705	233,086,007	rs122558	233,091,463	
		subclonality									
98D	8	3 copies	rs17717629	88,930,662	rs2214926	88,963,147		qter			
98D	10	2+1					pter	qter			
98D	11	2+1					pter	qter			
98D	12	2+1					pter	qter			
98D	14	2+1					pter	qter			
98D	15	1+0	rs11855248	41276158	rs12148744	41315357	rs2178003	42047173	rs1197659		
98D	21	2+1					pter	qter			
98D	22	2+1					pter	qter			
99D	7	1+0					pter	cen			
99D	7	2+1					cen	qter			
100D	7	1+0	rs10251980	50,366,637	rs7785321	50,418,242	rs11980379	50,469,981	rs4132601	50,470,604	
100D	10	1+0	rs10765177	129,682,249	rs11018423	129,760,482	rs1329189	129,998,372	rs7088525	130,004,489	
100D	12	1+0	rs10859223	92,268,062	rs12369683	92,272,344	rs3825178	92,537,192	rs709230	92,553,230	
100D	14	1+0	rs12018992	95,572,111	rs12897280	95,586,136	rs1743519	96,151,754	kgp436377	96,157,679	
100D	20	1+0	rs2050235	46,403,906	rs11698443	46,414,801	rs6066581	46,633,601	rs4810751	46,644,402	
101D	3	2+1	rs746546	108,458,283	rs1374821	108,474,507	rs1163400	108,914,650	rs1163378	108,936,698	seen at relapse
101D	11	1+0	rs11027319	23,582,035	rs11027351	23,596,802	rs4601775	23,784,536	rs4418809	23,803,362	seen at relapse
101R	3	UPD					pter	rs10510867	61,712,041	rs657813	61,783,170
101R	10	1+0	rs7911302	62,907,226	rs2807687	62,960,805	rs4746781	64,745,589	rs2175197	64,893,433	
101R	18	1+0	rs7232185	62,330,515	rs8087195	62,339,224	rs1147389	62,871,749	rs1179887	62,885,650	
102D	1	1+0	UPT				pter	rs12124147	3,134,331	rs7539489	3,169,088

102D	1	2+1				cen		qter		
102D	4	1+0				pter	kgp7490043	36,896,589	kgp21152303	36,903,005
102D	4	2+1	rs905955	76,736,430	kgp9419726	76,822,771	kgp6505288	79,694,881	kgp10331224	79,883,686
102D	5	2+1	kgp1257344	135,851,350	rs4382163	135,860,390	rs6898797	136,359,776	rs6898165	136,380,195
102D	6	2+1				pter		cen		
102D	6	UPD				cen		qter		
102D	8	2+1	kgp5427383	100,026,253	kgp5987817	100,163,290	qter			
102D	12	2+1				pter	rs1488724	100,215,417	rs827797	100,225,549
102D	12	UPD	rs1488724	100,215,417	rs827797	100,225,549	qter			
102D	14	2+1	kgp9956998	52,310,991	kgp7635387	52,318,300	rs10498477	56,180,099	rs1953352	56,197,159
102D	17	UPD	kgp4404552	40,481,529	kgp11168235	40,513,917	qter			
102D	22	2+1	kgp6365309	40,783,811	rs9611346	40,820,516	kgp1880804	41,684,426	kgp7817985	41,704,872
102D	X	2+1				pter		qter		
103D	9	1+0	rs9774948	19,942,824	kgp6657720	19,961,577	kgp18379264	22,758,960	kgp9836912	22,763,117
103D	14	1+0	kgp3272054	85,043,324	kgp8290184	85,042,306	rs17123476	87,939,004	kgp28177128	87,939,787
103D	20	2+1				pter		qter		
104D	1	1+0	rs17640824	185,283,119	kgp2489972	185,284,678	kgp7370969	185,517,712	kgp562579	185,519,288
104D	2	1+0	kgp24624156	54,554,637	kgp14858985	54,554,925	rs17045939	54,738,233	kgp3875425	54,739,274
104D	4	0 copies	kgp4625586	144,225,602	kgp137375	144,227,349	rs3133540	144,260,239	kgp21013024	144,261,051
104D	7	1+0	rs7781977	50,346,134	rs10244023	50,347,402	kgp13235910	50,367,495	kgp6461235	50,411,178
104D	7	0 copies	kgp6461235	50,411,178	kgp13496783	50,413,334	rs6952409	50,462,935	kgp12471039	50,463,757
104D	7	1+0			kgp12471039	50,463,757	rs17634488	50,497,131	kgp8227934	50,500,513
104D	9	2+1	kgp7550416	133,663,242	rs4740372	133,675,739	qter			
105D	3	2+1				pter		qter		
105D	6	2+1				pter		qter		
105D	8	2+1				pter		qter		
105D	12	2+1				pter	rs677758	70,886,721		
105D	12	UPD	rs677758	70,886,721	kgp27866130	70,899,683	rs4764746	101,026,666	rs984025	101,044,202
105D	12	2+1	rs4764746	101,026,666	rs984025	101,044,202	qter			
105D	13	2+1				pter		qter		
105D	16	2+1				pter		qter		
105D	19	2+1				pter		qter		
105D	22	UPD	kgp3429499	22,240,895	rs9610574	22,253,023	qter			
105D	X	1+1				pter		qter		
		subclonality								
106D	1	3 copies	rs7524694	104,019,631	rs12132911	104,113,158	rs12090453	109,416,225	rs338455	109,486,196
106D	1	1+0	rs16332777	158,904,114	rs8629991	159,164,364	rs7251304	160,342,015	rs11265381	160,349,098
106D	1	1+0	rs508744	160,707,779	rs10908813	160,895,847	rs7539281	162,008,034	rs10919117	162,267,823

106D	1	1+0	rs2753391	233,001,571	rs942606	233,023,763	rs1002726	238,726,690	rs1509689	239,254,075
106D	4	1+0	rs4521323	174,655,914	rs3922692	174,713,351	rs17726200	178,229,612	rs4690508	178,295,766
106D	7	subclonality 3 copies				pter	rs17584269	46,310,166	rs7794677	46,402,100
106D	8	subclonality 3 copies				pter	rs4552856	31,555,139	rs4566990	31,573,695
106D	8	subclonality 3 copies	rs2919465	101,285,717	rs2000479	101,448,416	qter			
106D	9	2+1				pter	rs4512473	21,663,040	rs10965099	21,682,759
106D	9	2+1	rs1780055	30,106,229	rs1018254	30,143,230	rs2031970	92,204,172	rs7871395	92,209,587
106D	11	subclonality 3 copies	rs1606385	80,465,494	rs11232335	80,507,165	qter			
106D	12	subclonality 3 copies	rs10859343	92,982,747	rs7977829	92,991,145	rs832504	94,672,888	rs12315018	94,881,995
106D	13	2+1	rs95277796	58,996,586	rs9527798	59,027,007	qter			
106D	14	subclonality 3 copies	rs1957718	27,536,408	rs21737373	27,649,298	rs4981820	31,531,855	rs12879653	31,579,788
106D	X	subclonality 3 copies	rs5982148	75,671,413	rs9781965	76,717,074	qter			
107D	4	2+1				pter		qter		
107D	5	2+1				pter		qter		
107D	5	1+0	rs7731259	97,033,349	rs291428	97,048,466	rs6884204	97,132,216	rs7701288	97,137,056
107D	8	2+1				pter		qter		
107D	9	UPD				pter	rs12551778	32,748,365	rs10971169	32,866,253
107D	9	0 copies	kgp22850811	21,818,731	kgp6865578	21,827,916	kgp4570145	22,008,026	kgp1831570	22,010,575
107D	10	2+1				pter		qter		
107D	14	2+1				pter		qter		
107D	17	2+1				pter	rs6504218	62,408,299	rs8067631	62,461,759
107D	17	2+1	rs8072595	63,160,236	rs10432040	63,178,256	qter			
107D	18	2+1				pter	rs2879822	70,383,297	rs1905559	70,429,225
107D	18	2+1	rs9966498	72,099,323	rs17246915	72,145,155	qter			
107D	19	1+0	rs4807934	1,586,217	rs8108123	1,641,898	rs8101536	2,629,845	rs4806871	2,635,059
107D	21	2+1				pter		qter		
107D	X	1+1				pter		qter		
108D	X	1+1				pter		qter		
109D	3	UPD				pter	rs9311428	48,520,289	rs2267844	48,591,481
109D	6	1+0	rs12209935	150,792,757	rs12213006	150,799,494	rs6918015	151,503,261		
109D	6	0 copies	rs6918015	151,503,261	rs12207016	151,507,355	cnvi0068357	151,512,169	rs9478984	151,513,858

109D	6	1+0			rs9478984	151,513,858	rs9479190	152,393,112	rs3822990	152,405,965
109D	16	1+0	rs6540278	85,620,902	rs4240810	85,625,127	qter			
109D	18	1+0	rs10514081	71,275,963	rs17828981	71,279,297	qter			
110D	11	1+0	kgp22845616	85,345,129	rs7122987	85,357,174	rs4937362	128,492,739	rs1240835	128,563,413
110D	12	1+0	rs11046037	8,674,900	rs10841847	8,687,812	rs4764291	16,904,214	rs7963143	16,934,292
110D	17	2+1				pter		qter		
111D	5	1+0	rs2545012	56,488,165	rs831649	56,493,746	rs1352609	57,321,413		
111D	5	0 copies	rs1352609	57,321,413	cnvi0144450	57,323,612	rs2635699	57,333,211	rs1454924	57,334,825
111D	5	1+0			rs1454924	57,334,825	rs10058291	58,194,892	rs17774945	58,202,930
111D	22	1+0	rs5762167	27,863,694	rs16986845	27,866,474	rs5752638	28,188,203	rs6005627	28,198,577
112D	4	1+0	rs1365492	100,792,952	rs11097680	100,834,862	kgp1506779	106,630,030	kgp11830717	106,711,416
112D	6	2+1				pter		qter		
112D	7	1+0	kgp553057	128,833,271	kgp8202019	128,840,908	kgp1184176	130,435,052	kgp2178263	130,502,278
112D	9	2+1				pter	rs11791059	9,876,096	kgp27453829	9,929,684
112D	9	UPD	rs11791059	9,876,096	kgp27453829	9,929,684	kgp2237705	26,119,147		
112D	9	2+1	kgp2237705	26,119,147	kgp2554175	26,183,697	kgp92446	32,928,215	rs10971259	32,978,806
112D	9	2+1	rs9409467	97,252,505	kgp120099743	97,347,235	qter			
112D	13	1+0	kgp9679663	72,443,242	rs4884968	72,444,592	kgp9062971	72,487,160	kgp6211014	72,487,339
		subklonal 3								
112D	22	copies				pter		qter		
113D	2	2+1				pter		qter		
113D	3	2+1				pter		qter		
113D	4	2+1	rs16892141	15,549,778	rs10029973	15,648,085	kgp10750339	26,921,846	kgp6653993	26,985,981
113D	7	2+1				pter		qter		
113D	9	2+1				pter		qter		
113D	11	2+1	kgp12367157	134,337,361	kgp2242191	134,341,435	rs10458997	134,746,130	kgp3749738	134,758,740
113D	13	2+1				pter		qter		
113D	15	2+1				pter		qter		
113D	16	2+1				pter		qter		
113D	17	2+1				pter		qter		
113D	20	2+1				pter		qter		
113D	21	2+2				pter		qter		
113D	X	2+1				pter	kgp22802965	44,687,992	kgp31051849	45,041,969
114D	21	2+1				pter		qter		
114D	X	2+1				pter		qter		
115D	8	1+0	kgp20057327	112,439,118	kgp12434287	112,435,255	rs12349789	112,821,478	rs7009072	112,823,931
115D	17	1+0				pter		cen		
115D	X	1+1				pter		qter		

116D	5	2+1	kgp5015776	97,303,178	rs4362966	97,315,701	kgp6813942	97,990,461	kgp8678547	98,065,683
116D	7	1+0				pter		cen		
116D	9	UPD				pter	kgp9063664	36,319,928	kgp151056	36,352,913
116D	9	1+0	rs3003614	130,994,736	rs3003578	130,994,179	kgp5767884	133,665,548	kgp18672995	133,666,527
116D	11	1+0	kgp1871157	60,759,027	kgp7717876	60,806,360	rs10897526	64,559,898	kgp7113136	64,572,602
116D	11	1+0	kgp7599470	68,652,241	kgp7576610	68,657,053	rs17137882	78,930,262	rs12222362	78,931,338
116D	11	1+0	rs725192	83,335,566	kgp10371577	83,335,903	qter			
117D	3	subclonality 3 copies	kgp11415118	118,960,049	kgp6451460	118,976,974	rs610902	119,251,785	rs626364	119,272,883
117D	3	subclonality 3 copies	kgp17600224	186,384,177	kgp17955221	186,384,822	kgp170316	186,432,990	kgp8875396	186,424,607
117D	5	subclonality 3 copies	kgp591392	186,648,045	kgp1627811	186,665,277	rs7559	186,796,053	kgp2905867	186,801,412
117D	4	subclonality 3 copies	rs1708772	57,694,352	kgp5133243	57,917,932	kgp9548905	86,601,742	kgp6250189	86,621,713
117D	4	subclonality 3 copies	rs1390931	101,762,475	kgp10190038	101,780,850	kgp12299127	102,707,791	kgp8215907	102,855,954
117D	6	subclonality 3 copies	rs4493734	67,402,631	rs9294717	67,410,283	kgp11070485	89,281,845	kgp8277224	89,392,287
117D	6	subclonality 3 copies	kgp12147528	97,961,549	kgp3273880	98,082,621	qter			
117D	7	subclonality 3 copies	rs6943932	21,312,691	kgp5321516	21,368,322	kgp12569521	22,441,502	kgp9419124	22,512,008
117D	7	1+0	kgp12478672	50,160,029	kgp10489452	50,268,043	kgp1936744	50,552,718	rs1037351	50,565,404
117D	7	2+1	rs177667	90,100,606	rs177659	90,109,586	kgp6456949	90,164,465	kgp9428452	90,173,707
117D	9	2+1				pter		qter		
117D	10	subclonality 3 copies				pter	kgp2926163	68,872,370	kgp3680333	68,955,883
117D	13	2+1	rs558963	101,952,542	rs9518366	101,959,985	rs639862	103,333,089	rs630706	103,337,357
117D	19	subclonality 3 copies				pter	kgp7131564	10,840,428	rs8113029	10,849,194
117D	X	2+1				pter		qter		
118D	16	1+0	rs3787	5,301,763	rs4786656	5,304,022	rs7185010	5,641,714	rs1544533	5,644,148
118D	21	UPD	rs2831097	29,046,911	rs16981075	29,076,064	qter			
119D	1	2+1				pter		qter		
120D	5	0 copies	kgp22171702	140,222,063	rs7730895	140,225,908	kgp6738362	140,238,311	rs12657479	140,240,050
120D	9	1+0				pter		cen		
120D	9	0 copies	rs10757021	21,228,182	rs7033839	21,234,721	kgp3444060	22,239,567	kgp4115411	22,240,444

120D	10	1+0	rs10788529	88,625,499	kgp3881009	88,660,996	kgp8844810	108,087,022	kgp5044730	108,163,897
120D	10	0 copies	rs1042194	96,495,484	kgp21613472	96,495,885	rs4494250	96,563,757	rs12218984	96,564,378
120D	12	2+1				pter		qter		
120D	20	2+1				pter		cen		
120D	20	UPD				cen		qter		
121D	5	1+0	rs2963442	157,940,293	kgp5411275	157,949,553	rs2420355	158,568,110	kgp4547183	158,573,496
121D	11	1+0	rs518835	118,352,805	kgp12806520	118,355,049	kgp3023323	118,548,623	kgp2359683	118,550,524
121D	18	1+0	kgp8469679	1,867,835	rs312987	1,899,053	kgp12523686	1,982,551	rs1940656	2,017,726
121D	X	1+0	kgp30640129	1,319,762	kgp31138321	1,347,569	kgp22759812	1,952,732	kgp22748219	2,044,767
122D	5	1+0	rs1981973	157,983,772	rs17703354	157,986,357	rs7725823	158,534,155	rs2161357	158,537,119
122D	19	1+0				pter	rs4807532	3,928,369	rs4807534	3,930,874
123D	8	1+0	kgp6552559	60,028,594	kgp205531123	60,029,168	rs6980657	60,241,157	rs6471780	60,250,245
123D	9	1+0	kgp3421602	19,746,626	kgp3445833	19,751,710	kgp9955232	21,485,849	rs1332184	21,504,203
123D	9	1+0	kgp6912032	21,710,618	kgp1314541	21,759,571	kgp715764	21,975,807		
123D	9	0 copies	kgp715764	21,975,807	kgp10311555	21,976,402	rs3217976	22,008,439	rs2317973	22,009,960
123D	9	1+0			rs2317973	22,009,960	rs630946	22,439,405	rs10733377	22,455,518
123D	12	1+0	rs12369683	92,272,344	kgp11583673	92,295,878	kgp1413692	92,539,460	rs2118524	92,550,489
123D	13	0 copies	kgp4649299	48,980,250	kgp11872384	48,982,973	kgp16595674	49,170,394	kgp16759765	49,171,848
123D	X	UPD				pter		qter		
123D	X	0 copies	kgp22789596	44,522,829	rs592246	44,524,898	rs5952269	44,730,599	rs5952647	44,734,610
124D	6	2+1	kgp5610896	54,995,326	kgp9882954	55,013,291	kgp10430527	121,365,205	rs12527636	121,392,847
124D	7	2+1	kgp1159388	129,177,587	kgp1673220	129,270,638	qter			
		subclonality								
124D	9	3 copies				pter		qter		
		subclonality								
124D	13	3 copies	kgp4000811	31,970,007	kgp3829656	31,988,975	rs9565968	85,286,453	rs17071783	85,352,431
125D	1	1+0	rs1294259	233,498,944	kgp4161639	233,500,438	kgp12548005	236,314,586	kgp4655179	236,393,257
125D	3	1+0	rs4374546	96,470,675	rs2873641	96,563,005	kgp5277443	98,673,440	kgp7881218	98,738,736
125D	3	1+0	kgp4359415	99,199,552	kgp5548444	99,251,214	rs9869337	100,843,934	rs6441582	100,854,588
125D	3	1+0	kgp11083227	189,404,038	rs2889918	189,409,196	rs9816545	190,978,515	kgp27002023	190,980,051
		subclonality								
125D	4	3 copies	kgp9012691	163,284,891	kgp93554	163,327,376	qter			
125D	7	1+0	kgp3705504	126,248,228	rs17612819	126,296,444	rs3757771	127,538,559	rs1468701	127,546,472
125D	8	1+0	kgp12555135	5,343,931	rs2408057	5,351,965	rs34797677	7,154,815	kgp947730	7,215,442
125D	8	1+0	rs3779664	11,607,048	kgp11423726	11,628,659	kgp20193427	12,190,106	kgp22811094	12,241,353
125D	8	1+0	rs13278411	15,901,774	kgp4914010	15,921,400	kgp5003446	37,815,121	kgp8275428	37,811,922
		subclonality								
125D	8	3 copies	kgp6139209	126,301,935	kgp3192358	126,421,654	rs13258902	130,365,025	kgp1311212	130,550,921

125D	8	1+0	kgp10335433	133,131,953	kgp4692373	133,156,886	qter			
125D	9	1+0	rs1330262	10,991,445	kgp5249446	10,995,168	qter			
125D	11	1+0	rs11231867	64,538,346	rs10897526	64,559,898	kgp3351043	65,769,780	kgp7756568	65,854,553
125D	13	1+0	rs4942675	48,292,879	rs117286	48,362,582	rs17532412	52,308,103	rs9535748	52,328,361
125D	15	1+0	kgp463531	74,544,835	kgp8837834	74,589,261	kgp5611443	76,304,264	kgp420136	76,355,712
125D	17	1+0				pter		cen		
125D	19	1+0	kgp8077381	3,480,323	rs11672955	3,511,709	rs11085072	4,368,142	rs243402	4,377,972
125D	X	1+0				pter		qter		
126D	4	0 copies	kgp6905956	145,101,424	rs6812128	145,102,264	kgp207003518	145,204,573	kgp22794270	145,205,675
126D	4	1+0			kgp22794270	145,205,675	kgp10651112	145,579,907	kgp20772776	145,580,866
126D	5	1+0	rs10482619	142,780,844	rs10482617	142,781,168	rs2546879	143,134,575	kgp22367496	143,136,860
126D	6	1+0	rs6922032	2,640,997	kgp9618187	2,642,381	rs5459332	14,036,774	rs9476481	14,067,170
126D	6	1+0	kgp66884668	156,601,505	kgp27220961	156,603,168	kgp918392	156,878,462	rs288975	156,878,678
126D	7	1+0	rs7781977	50,346,134	r10244023	50,347,402	kgp12471039	50,463,757	kgp602789	50,464,756
127R	8	1+0	rs998791	59,724,602	rs2726556	59,792,778	rs13275234	59,939,277	rs9694192	59,944,515
127R	15	1+0	rs12440393	22,571,367	rs28437212	22,652,330	rs28605582	23,406,993	rs2693497	23,649,072
128R	5	1+0	kgp30324794	158,118,897	rs2161140	158,122,679	rs7725823	158,534,155	rs2161357	158,537,119
128R	7	1+0	kgp10961940	50,411,987	kgp13496783	50,413,334	rs11763774	50,462,138	kgp642881	50,465,654
128R	9	1+0	rs1364614	21,115,002	rs4255228	21,117,059	kgp5179290	21,818,617		
128R	9	0 copies	kgp5179290	21,818,617	kgp10638282	21,827,397	rs2069421	22,008,313	rs3217976	22,008,439
128R	9	1+0			rs3217976	22,008,439	kgp18278500	22,231,939	rs7859353	22,237,616
128R	10	0 copies	rs28365883	111,766,772	GA027265	111,768,058	rs7918588	111,868,707	kgp2203243	111,868,877
128R	12	1+0	kgp8357951	92,345,006	kgp27868124	92,346,897	kgp18808582	92,544,321	kgp27726480	92,546,889
128R	13	0 copies	kgp22763174	48,983,706	rs4151547	48,984,865	kgp10010979	49,072,945	kgp16767774	49,075,495
128R	13	1+0			kgp16767774	49,075,495	kgp6826344	49,177,902	kgp10675338	49,185,187
		subclonality								
128R	20	3 copies	kgp9466300	35,461,766	kgp1775446	36,486,063	kgp3186724	58,405,991	kgp3120283	58,476,811
128R	22	2+1				pter	GA036174	23,162,116	GA017899	23,222,900
129R	3	1+0	rs13100056	34,357,569	kgp10910171	34,359,251	kgp26723367	34,482,363	kgp4421932	34,483,336
129R	3	1+0	rs4678496	34,993,312	kgp4834620	34,994,423	kgp772660	35,682,674	rs1542212	35,683,935
129R	4	1+0	kgp6619600	86,491,590	kgp21216375	86,491,968	kgp20651913	86,664,217	rs6822082	86,666,360
129R	4	1+0	kgp9748188	144,204,392	kgp21205928	144,205,557	rs13133540	144,260,239	kgp7998180	144,261,117
129R	5	1+0	kgp6445874	157,939,383	kgp2696150	157,941,861	kgp1052389	158,531,880	rs7725823	158,534,155
129R	6	1+0	kgp17476523	26,150,863	rs9358908	26,151,535	kgp17488238	26,282,634		
129R	6	0 copies	kgp17488238	26,282,634	kgp2708183	26,283,185	kgp26167970	26,328,120	rs12182334	26,328,351
129R	6	1+0			rs12182334	26,328,351	kgp11152501	26,538,543	kgp7069273	26,540,166
129R	6	1+0	kgp6892640	28,248,594	kgp852960	28,250,202	kgp10514650	28,351,728	kgp16921259	28,352,339

129R	7	1+0	rs7781977	50,346,134	rs10244023	50,347,402	kgp4240063	50,419,792	kgp9724564	50,423,591
129R	9	1+0	rs3928894	21,818,310	kgp7327342	21,825,470	kgp2975580	21,900,977		
129R	9	0 copies	kgp2975580	21,900,977	rs756641	21,902,354	rs7867492	21,991,016	kgp7437360	21,991,923
129R	9	1+0			kgp7437360	21,991,923	rs3218005	22,000,247	rs3217994	22,002,864
129R	9	1+0	kgp12209530	36,928,576	kgp4415929	36,931,430	kgp5622956	37,027,092	rs378179	37,029,569
129R	9	1+0	kgp22813031	80,386,744	kgp424718	80,388,946	rs12353270	80,668,796	kgp18449478	80,675,559
129R	10	1+0	kgp29694058	1,462,524	kgp2388519	1,463,042	kgp7873987	1,618,354	rs1574269	1,618,717
129R	12	1+0	kgp12480499	12,028,157	kgp8848285	12,028,661	kgp18828325	12,178,926	kgp18857837	12,179,928
129R	12	1+0	rs7330	12,874,917	kgp18823657	12,876,646	rs108455646	12,989,427	kgp2055758	12,990,162
129R	12	1+0	kgp4909716	64,957,953	kgp19032257	64,960,467	kgp18758345	65,006,259	kgp2788006	65,007,088
129R	12	1+0	kgp1096655	89,694,833	kgp27802098	89,697,945	kgp11450641	89,756,888	rs7965786	89,761,718
129R	12	1+0	kgp7267343	92,279,251	kgp1251532	92,280,398	kgp19044289	92,539,543	kgp8154533	92,541,492
129R	13	1+0	kgp3092376	44,704,568	kgp16796618	44,705,865	kgp11699180	45,012,908	rs6561176	45,015,449
		subclonality								
129R	14	3 copies				pter	kgp5356279	72,369,487	kgp19722905	72,369,785
129R	14	1+0			kgp19722905	72,369,785	rs8008611	93,033,114	kgp10163574	93,036,450
		subclonality								
129R	14	3 copies			kgp10163574	93,036,450	qter			
129R	15	1+0	kgp3882305	57,294,800	kgp3977156	57,294,906	kgp19825136	57,459,087	rs2414491	57,465,775
129R	17	1+0	kgp9859521	56,744,055	kgp5782710	56,744,609	kgp23794177	56,999,488	rs1971659	57,004,787
129R	18	1+0	kgp453626	65,713,039	kgp9293435	65,716,403	rs1117240	66,028,739	rs1943033	66,031,129
129R	19	1+0	kgp6787395	19,753,882	kgp8355500	19,754,919	rs1167247	19,977,076	kgp11094881	19,981,892
129R	20	1+0	kgp938110	10,405,922	kgp3526249	10,408,627	kgp96166088	10,520,966	kgp9735746	10,523,547
129R	21	1+0	kgp4890829	36,418,601	rs7277157	36,419,783	kgp3060378	36,986,794	kgp8409555	36,988,684
129R	X	1+0	kgp22792235	33,795,131	kgp30671865	33,796,710	kgp30941136	33,849,700	kgp22781048	33,854,835
129R	X	1+0	kgp30603124	63,366,637	rs5964734	63,388,752	rs7057580	63,611,971	kgp22826241	63,617,718
		subclonality								
130R	12	3 copies				pter		qter		
130R	17	1+0				pter	rs6846	18,834,258	kgp6329304	19,175,245
		subclonality								
130R	21	3 copies	rs2829764	26,834,749	rs2829775	26,860,307	qter			
130R	X	1+1				pter		qter		
131R	2	1+0	rs13413858	4,018,651	rs1494055	4,030,608	rs10519623	4,332,272	rs7589994	4,335,063
131R	2	1+0	rs7556894	65,512,068	rs7601514	65,545,702	rs4101981	90,403,624	cnvi0146585	91,622,832
131R	6	1+0	rs449578	95078646	rs9342409	95098682	qter			
		subclonality								
131R	8	3 copies				pter	rs922504	21,682,044	rs317692	21,903,316

		subclonality								
131R	9	3 copies				pter		cen		
131R	9	1+0	rs10811244	19,801,918	rs10811245	19,803,724	kgp18587345	22,102,464	kgp3530178	22,103,183
131R	9	1+0	kgp18328283	22,390,302	kgp1967342	22,390,604	kgp1865462	22,451,448	kgp22855281	22,416,820
		subclonality								
131R	9	3 copies	rs3763640	112,070,162	rs4978793	112,081,994	rs10980439	113,316,224	rs1940251	113,526,327
131R	10	2+1				pter		cen		
		subclonality								
131R	11	3 copies	rs4643089	120,941,583	rs598650	120,980,537	qter			
131R	12	UPD				pter	rs2719272	12,019,756	rs17818396	12,027,745
131R	12	1+0	rs2719272	12,019,756	rs17818396	12,027,745	cen			
131R	15	1+0	kgp22847709	41,641,353	kgp22853186	41,663,793	rs2665203	42,316,527	rs4924604	42,320,453
131R	17	1+0				pter	kgp11452356	21,565,580	rs1975974	21,707,060
		subclonality								
131R	19	3 copies				pter	rs1560122	7,987,837	rs4804252	8,112,622
131R	19	UPD	rs7252741	1,580,334	rs8110543	1,589,064	rs17605476	2,834,373	rs9304900	2,873,439
		subclonality								
131R	20	3 copies	rs1735138	54,809,305	rs6024786	54,890,671	qter			
		subclonality								
131R	21	3 copies				pter	rs9983953	24,909,350	rs1023133	24,926,056
131R	21	2+1	rs9983953	24,909,350	rs1023133	24,926,056	rs7279123	36,415,087	rs928282	36,433,963
132R	3	1+0	kgp5342252	35,678,337	rs2197732	35,713,180	kgp8217912	35,767,300	kgp3580253	35,771,984
132R	7	1+0	rs10244023	50,347,402	rs6583437	50,350,267	rs6978556	50,497,534	kgp8227934	50,500,513
132R	8	1+0	kgp6552559	60,028,594	kgp1319459	60,029,998	kgp10855912	60,458,178	kgp20308709	60,461,160
132R	9	1+0	kgp4133790	36,166,885	rs7038327	36,168,940	kgp10319056	37,034,973	kgp11113286	37,044,179
132R	9	2+1	kgp4316342	133,574,910	rs2855171	133,638,943	qter			
132R	11	1+0	kgp12744041	85,760,500	kgp12621035	85,765,398	kgp5808856	85,957,174	rs2374721	85,957,745
132R	12	1+0	kgp7267343	92,279,251	kgp1251532	92,280,398	kgp18808582	92,544,321	kgp27726480	92,546,889
132R	22	1+0				qter	rs140500	23,597,030	rs140503	23,614,625
		subclonality								
133R	11	3 copies	rs196726	96,977,582	kgp11633499	97,029,329	rs877601	115,836,632	kgp10530347	115,911,176
133R	12	1+0	kgp7152944	64,977,139	kgp326453	64,979,013	kgp4379767	65,005,063	kgp12380935	65,007,107
133R	13	1+0	kgp7213687	50,379,725	kgp558495	50,462,014	rs17593270	51,642,668	rs3803199	51,658,297

Abbreviations: Cen indicates centromere; Chr, chromosome; D, diagnosis; FAS, first abnormal SNP; FNS, first normal SNP; LAS, last abnormal SNP; LNS, last normal SNP; pos, position based on homo sapiens high coverage assembly GRCh37; pter, telomere of the p-arm; qter, telomere of the q-arm; R, relapse; SNP, single nucleotide polymorphism.

Supplementary Table 3. Deletions encompassing recurrent novel gene targets

Case No.	Chr	Position (bp)	Possible gene target*	Abnormality
37	3	112,051,905-112,223,440 (112,051,693-112,224,309)	<i>BTLA/CD200</i>	Hemizygous deletion
65	3	cen-qter	<i>BTLA/CD200+</i>	Hemizygous deletion
66	3	103,392,288-112,878,679 (103,267,780-112,906,970)	<i>BTLA/CD200+</i>	Hemizygous deletion
71	3	pter-qter	<i>BTLA/CD200+</i>	Hemizygous deletion
73	5	142,781,168-142,859,606 (142,780,844-142,859,606)	<i>NR3C1</i>	Hemizygous deletion
73	5	142,861,367-142,865,795 (142,859,606-142,866,446)	<i>NR3C1</i>	Homozygous deletion
73	5	142,866,446-142,983,275 (142,866,446- 142,984,844)	<i>NR3C1</i>	Hemizygous deletion
69	5	142,605,746-143,197,848 (142,587,831-143,211,589)	<i>NR3C1</i>	Hemizygous deletion
85	5	98,937,854-qter (98,936,840-qter)	<i>NR3C1+</i>	Hemizygous deletion
126	5	142,781,168-143,134,575 (142,780,844-143,136,860)	<i>NR3C1</i>	Hemizygous deletion
127R	8	59,792,778-59,939,277 (59,724,602-59,944,515)	<i>TOX</i>	Hemizygous deletion
132R	8	60,029,168-60,458,178 (60,028,594-60,461,160)	<i>TOX</i>	Hemizygous deletion
43	10	97,471,769-98,295,481(97,363,344-98,295,481)	<i>PIK3API</i>	Hemizygous deletion
43	10	98,298,719-98,590,486(98,295,481-98,590,486)	<i>PIK3API</i>	Homozygous deletion
43	10	98,593,484-99,145,090(98,590,486-99,145,090)	<i>PIK3API+</i>	Hemizygous deletion
59	10	98,432,898-98,477,849(98,432,789-98,477,849)	<i>PIK3API</i>	Hemizygous deletion
59	10	98,478,317-98,590,486(98,477,849-98,590,486)	<i>PIK3API</i>	Homozygous deletion

120	10	88,660,996-108,087,022(88,625,499-108,163,897)	<i>PIK3AP1+</i>	Hemizygous deletion
3	12	pter -28,605,426 (pter-28,615,233)	<i>BCAT1/ETV6 +</i>	Hemizygous deletion
23	12	pter -25,091,308 (pter-25,094,128)	<i>BCAT1/ETV6 +</i>	Hemizygous deletion
37	12	24,955,175 -25,132,771 (24,952,242-25,136,905)	<i>BCAT1</i>	Hemizygous deletion
43	12	1,831,246 -56,285,743 (1,777,272-56,312,226)	<i>BCAT1/ETV6+</i>	Hemizygous deletion
65	12	pter -27,662,884 (pter-27,677,087)	<i>BCAT1/ETV6+</i>	Hemizygous deletion
80	12	24,967,157 -25,094,970 (24,956,287-25,132,771)	<i>BCAT1</i>	Hemizygous deletion
84	12	7,309,199 - 26,629,368 (7,308,992-26,635,075)	<i>BCAT1/ETV6+</i>	Hemizygous deletion
129R	12	64,960,467-65,006,259 (64,957,953-65,007,088)	<i>RASSF3</i>	Hemizygous deletion
133R	12	64,979,013-65,005,063 (64,977,139-65,007,107)	<i>RASSF3</i>	Hemizygous deletion
7	13	44,842,503 -45,008,333 (44,840,346-45,013,449)	<i>SERP2/TSC22D1</i>	Hemizygous deletion
15	13	42,954,463-68,340,875 (42,948,531 -68,361,371)	<i>SERP2/RBI+</i>	Hemizygous deletion
23	13	30,927,769 -114,265,305 (30,926,730-114,308,914)	<i>SERP2/RBI+</i>	Hemizygous deletion
49	13	44,831,393 -45,039,441 (44,815,947-45,043,884)	<i>SERP2/TSC22D1</i>	Hemizygous deletion
66	13	42,078,610 - 49,382,008 (42,041,193-49,419,880)	<i>SERP2/RBI+</i>	Hemizygous deletion
80	13	44,852,020 -45,010,653 (44,845,243-45,015,449)	<i>SERP2/ TSC22D1</i>	Hemizygous deletion

Abbreviations: bp, base pairs; cen, centromere; chr, chromosome; D, diagnostic sample; pter, p-terminal; qter, q-terminal.

*A + sign indicates that >5 other genes were included in the deleted region.