

Breakpoint Number	Rearrangement Type	Cytoband Translocation	Breakpoint Junction	Data Source	Associated Genes	Repair Mechanism	Comments	Associated Amplicon Express® BAC clones
1	Inter-Chrm Rearrangement	2q14.2-14q21.2	5bp homology	BAC Only		NHEJ		48K5
2	Inter-Chrm Rearrangement	12q15-13q14.3	6bp homology	BAC Only	Truncation AF119871,CAB39L	NHEJ	CAB39L exon 1 (promoter) relocated to upstream location of MDM1	35J19
3	Inter-Chrm Rearrangement	17q23.2-20q13.2	Kb resolution	Cell Lines Only	Truncation BCAS1,BCAS3	NHEJ	Truncation of BCAS1 causes loss of exons 1-4 (out of 12) and BCAS3 exon 6 is rearranged	12F20,12O5,13L7,2B5,2H23,5P4
4	Inter-Chrm Rearrangement	7p21.3-9q22.32	1bp homology	BAC Only	Truncation AK027618	NHEJ	AK027618 truncation causes loss of exons 8-18	18K5
5	Inter-Chrm Rearrangement	8q21.11-9p24.3	1bp homology	BAC & Cell Lines	Truncation HNF4G,ANKRD15	NHEJ	HNF4G truncation causes loss of exons 1-2 (out of 10) and ANKRD15 truncation causes loss of exons 1-2 (out of 12)	34C24
6	Intra-Chrm Translocation	20q12-20q12	2bp homology	BAC & Cell Lines	Truncation PTPRT	NHEJ	PTPRT truncation causes loss of exons 1-8 (out of 31)	11K13,2J24
7	Inter-Chrm Rearrangement	17q22-20q13.2	Kb resolution	BAC Only	Truncation TEX14	NHEJ	TEX14 truncation causes loss of exons 4-32	16L9,4L22,6G17,9P15
8	Intra-Chrm Translocation	20q13.13-20q13.13	51bp insert	BAC & Cell Lines	Fusion ARFGEF2-SULF2	NHEJ	Fusion of ARFGEF2 exon 1 to SULF2 exons 3-21	18L12,21C24,29F20
9	Intra-Chrm Inversion	4p11-4p11	Kb resolution	BAC Only		NHEJ	82Kb inversion	21K22,30M7
10	Inter-Chrm Rearrangement	1p13.2-3p14.2	Kb resolution	BAC Only		NHEJ		26N5,29M24,30J14,37E22
11	Inter-Chrm Rearrangement	17q23.3-20q13.2	63bp insert	BAC & Cell Lines		NHEJ		20M13,29E16,30L1,6B19,6L9
12	Intra-Chrm Inversion	9q21.31-9q21.32	1bp homology	BAC & Cell Lines	Truncation TLE1	NHEJ	TLE1 truncation causes loss of first 2 exons, 920 inversion	6F13
13	Intra-Chrm Translocation	21q11.2-21q11.2	4bp insert	BAC Only	Truncation ANKRD21	NHEJ	Truncation causes loss of first 9 exons (out of 11)	12F4
14	Inter-Chrm Rearrangement	7p21.3-9q22.32	14bp insert	BAC Only	Truncation AK027618,C9orf3	NHEJ	AK027618 truncation causes loss of exons 9-18	18K5
15	Intra-Chrm Deletion	8q22.2-8q22.2	4bp homology	BAC & Cell Lines	Truncation RGS22	NHEJ	RGS22 19Kb deletion of exons 14-10	15I7
16	Inter-Chrm Rearrangement	17q23.2-20q13.2	Kb resolution	Cell Lines Only	Truncation BCAS3	NHEJ	BCAS3 truncation causes loss of exons 23-24	36B13
17	Inter-Chrm Rearrangement	1p13.2-3p14.2	7bp homology	BAC & Cell Lines		NHEJ		37E22
18	Intra-Chrm Inversion	17q23.2-17q23.2	Kb resolution	BAC & Cell Lines	Truncation INTS2,AK123839	NHEJ	Truncation causes loss of INTS2 exons 1-7 (out of 25) and cleavage of the AK123839 single exon, 96Kb inversion	10L3,13H17,1A2,3B22,3E7,3F5,3G2,5H9,5I13,8B13,8J22,8K17
19	Intra-Chrm Translocation	20p12.2-20p12.2	3bp homology	BAC Only		NHEJ		5O10
20	Inter-Chrm Rearrangement	3q25.2-12p12.1	flush junction	BAC Only		NHEJ		56N18
21	Intra-Chrm Inversion	9q12-9p12	Kb resolution	BAC & Cell Lines		NHEJ	27.7Mb inversion	27B18
22	Inter-Chrm Rearrangement	8q12.3-13q21.1	1058bp insert	BAC Only		NHEJ		32N23
23	Intra-Chrm Inversion	17q12-17q21.32	118bp insert	BAC Only	Truncation NPEPPS	NHEJ	NPEPPS truncation causes loss of exons 11-23, 10MB inversion, the six independent insert mappings in 17q12 may represent alternate locations for this breakpoint	42E12
24	Inter-Chrm Rearrangement	3p14.2-17q23.2	3bp homology	BAC & Cell Lines	Truncation BCAS3	NHEJ	BCAS3 truncation causes loss of exons 7-24	12F20,12O5,13L7,18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,2B5,2H23,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5,5P4
25	Intra-Chrm Deletion	3p14.1-3p14.1	Kb resolution	BAC & Cell Lines	Truncation ATXN7	NHEJ	ATXN7 truncation causes loss of exons 1-5 (out of 13), 220Kb deletion	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
26	Inter-Chrm Rearrangement	20q13.12-Xq28	Kb resolution	BAC & Cell Lines		NHEJ	Possible gene truncations of FUNDC2 or F8.2	11N23

27	Inter-Chrm Rearrangement	20q13.31-22q13.1	flush junction	BAC Only		NHEJ		10L3,13H17,18P11,19I13,19P17,1A2,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,36L24,37P20,39A5,3B22,3E7,3F5,3G2,40H4,40J4,40L4,40L8,40N4,42L7,43G1,55F13,57N6,5H9,5I13,64O20,69F1,71O17,75M20,77H17,78P21,86J15,87A15,88I10,8B13,8J22,8K17,90F9,90K4,90P15
28	Intra-Chrm Inversion	20q13.2-20q13.33	13bp homology	BAC & Cell Lines		NHEJ	5.6Mb inversion	36B13
29	Intra-Chrm Translocation	7p15.1-7p15.1	7bp insert	BAC Only	Truncation NOD1	NHEJ	NOD1 truncation causes exon 1 (promoter) rearrangement	25M5
30	Intra-Chrm Translocation	17q23.1-17q23.1	29bp insert	BAC & Cell Lines	Truncation TMEM49	NHEJ	TMEM49 truncation causes loss of exons 1-8 (out of 12)	1M18
31	Inter-Chrm Rearrangement	1p22.2-3p14.1	7bp homology	BAC Only		NHEJ		10D15
32	Intra-Chrm Inversion	20q13.12-20q13.13	126bp homology	BAC Only	Truncation EYA2	NHEJ	EYA2 truncation causes loss of exons 1-10 (out of 16), 3.5Mb inversion	10D13,12A8,13F1,19O10,1A11,1D13,28H13,30O17,31E14,38G5,3B8,41B14,55I11,58K11,7G12,80H12
33	Intra-Chrm Translocation	5q12.1-5q12.1	Kb resolution	BAC & Cell Lines	Fusion DEPDC1B-ELOVL7	NHEJ	Fusion of DEPDC1B exons 1-7 (out of 11) with ELOVL7 exons 8-9	22O7
34	Inter-Chrm Rearrangement	3p14.1-17q23.2	1bp homology	BAC & Cell Lines	Truncation BRIP1	NHEJ	BRIP1 truncation causes loss on exons 18-20	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
35	Inter-Chrm Rearrangement	3p14.1-17q22	4bp homology	BAC & Cell Lines	Fusion RAD51C-ATXN7	NHEJ	Fusion of RAD51C exons 1-7 (out of 9) with ATXN7 exons 6-13	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
36	Inter-Chrm Rearrangement	3q25.1-5q35.1	2bp homology	BAC Only	Truncation CLRN1.2,DOCK2	NHEJ	CLRN1.2 truncation causes loss of exon 1 and DOCK2 truncation causes loss of exons 1-26 (out of 52)	49C23
37	Intra-Chrm Inversion	10q11.22-10q11.22	227bp homology	BAC Only		NAHR	Human minisatellite conserved sequence/chi-like element located at aberrant join junction, NAHR exhibits unequal recombination, 585Kb inversion	18M2
38	Intra-Chrm Inversion	1p13.2-1p13.2	Kb resolution	BAC only		NHEJ	internal BAC inversion	12F20,12O5,13L7,2B5,2H23,5P4
39	Inter-Chrm Rearrangement	3p26.1-6q21	1bp homology	BAC Only	Truncation LACE1	NHEJ	LACE1 truncation causes loss of exons 7-13	46C21
40	Inter-Chrm Rearrangement	3p14.1-20q13.13	flush junction	BAC & Cell Lines	Fusion SULF2-PRICKLE2	NHEJ	Fusion of SULF2 exon 1 with the last exon of PRICKLE2	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
41	Inter-Chrm Rearrangement	18p11.21-21q11.2	4bp insert	BAC & Cell Lines		NHEJ		12F4
42	Inter-Chrm Rearrangement	3q26.2-14q13.1	1bp homology	BAC Only		NHEJ		56L16
43	Intra-Chrm Inversion	8p23.2-8p23.3	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 150Kb inversion	12D21
44	Intra-Chrm Translocation	22q11.21-22q11.21	139bp homology	BAC Only		NAHR	NAHR exhibits equal recombination	42D18,56A17
45	Inter-Chrm Rearrangement	1q21.1-8p23.1	flush junction	BAC Only		NHEJ		16L20
46	Intra-Chrm Inversion	12q13.13-12q21.31	5bp homology	BAC & Cell Lines	Truncation HOXC11	NHEJ	HOXC11 truncation causes cleavage in exon 1 (promoter), 32Mb inversion	12M15
47	Intra-Chrm Deletion	17q23.2-17q23.2	Kb resolution	BAC Only	Truncation INTS2	NHEJ	INTS2 truncation causes loss of exons 1-7 (out of 25), 202Kb deletion	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
48	Intra-Chrm Inversion	17q23.3-17q23.3	flush junction	BAC & Cell Lines		NHEJ	8Kb inversion	46M17
49	Inter-Chrm Rearrangement	1p13.3-17q23.2	Kb resolution	BAC Only	Truncation NTNG1,BCAS3	NHEJ		12F20,12O5,13L7,2B5,2H23,5P4
50	Intra-Chrm Inversion	3p14.2-3p14.2	flush junction	BAC & Cell Lines		NHEJ	465Kb inversion	26N5,29M24,30J14,37E22
51	Inter-Chrm Rearrangement	3p14.1-20q12	Kb resolution	BAC & Cell Lines	Truncation PTPRT	NHEJ	PTPRT truncation causes loss of exons 1-15 (out of 31)	10L3,13H17,1A2,36L24,37P20,39A5,3B22,3E7,3F5,3G2,40H4,40J4,40L4,40L8,40N4,42L7,43G1,55F13,57N6,5H9,5I13,64O20,69F1,71O17,75M20,77H17,78P21,86J15,87A15,88I10,8B13,8J22,8K17,90F9,90K4,90P15
52	Intra-Chrm Inversion	9q22.32-9q22.32	flush junction	BAC Only		NHEJ	656Kb inversion	18K5
53	Intra-Chrm Inversion	2q13-2q13	24bp insert	BAC Only	Truncation MALL	NHEJ	MALL truncation causes loss of first exon, 120Kb inversion	6P20
54	Inter-Chrm Rearrangement	1p31.3-2p22.3	flush junction	BAC Only	Truncation PDE4B	NHEJ	PDE4B truncation causes loss on first exon	2K20
55	Intra-Chrm Inversion	20q13.2-20q13.2	86bp insert	BAC & Cell Lines		NHEJ	Insert maps 4.1Mb upstream of 20q13.2 inversion, 27Kb inversion	31F19

56	Inter-Chrm Rearrangement	3p25.1-10p13	1bp homology	BAC Only	Truncation GRIP2	NHEJ	GRIP2 truncation causes loss of exons 23-25	50113
57	Intra-Chrm Deletion	17q12-17q12	Kb resolution	BAC & Cell Lines	Truncation AX775941	NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 192Kb deletion	42E12
58	Intra-Chrm Translocation	3q26.31-3q26.31	2bp insert	BAC & Cell Lines	Truncation NAALADL2	NHEJ	NAALADL2 truncation causes in-gene rearrangement of exons 2-10 (out of 14)	25E11
59	Intra-Chrm Deletion	20q13.2-20q13.31	Kb resolution	BAC & Cell Lines		NHEJ	1.5Mb deletion	10L3,13H17,1A2,3B22,3E7,3F5,3G2,5H9,5I13,8B13,8J22,8K17
60	Intra-Chrm Translocation	3q26.1-3q26.1	3bp homology	BAC & Cell Lines	Truncation PPM1L	NHEJ	PPM1L truncation causes loss of exons 3-4	28H18
61	Intra-Chrm Inversion	9q33.3-9q34.13	51bp insert	BAC & Cell Lines	Truncation NUP214	NHEJ	NUP214 truncation causes loss of exons 1-12 (out of 36), 4.7Mb inversion	10I
62	Inter-Chrm Rearrangement	7p22.1-9p13.3	Kb resolution	Cell Lines Only		NHEJ	Kb_resolution unable to call gene truncations since BP lies at gene cluster junction	25E24
63	Inter-Chrm Rearrangement	17q23.2-20q13.2	Kb resolution	BAC & Cell Lines	Truncation INTS2	NHEJ	INTS2 truncation causes loss of exons 1-7 (out of 25)	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
64	Inter-Chrm Rearrangement	12q21.33-17q24.2	6bp homology	BAC Only		NHEJ		46C1
65	Intra-Chrm Inversion	1q12-1q12	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 800Kb inversion	15I17
66	Inter-Chrm Rearrangement	3q13.33-9q22.32	flush junction	BAC Only	Truncation GPR156,C9orf3	NHEJ	GPR156 truncation causes loss of exon 4, Human minisatellite conserved sequence/ chi-like element located at aberrant join junction	18K5
67	Intra-Chrm Inversion	17q21.32-17q23.2	87bp insert	BAC Only	Fusion NPEPPS-USP32	NHEJ	Fusion of NPEPPS exons 1-12 (out of 23) with USP32 exons 2-34, 13Mb inversion	42E12
68	Inter-Chrm Rearrangement	1p21.1-3p14.1	2bp homology	BAC & Cell Lines	Truncation ATXN7	NHEJ	ATXN7 truncation causes loss of exons 5-13	35E3
69	Intra-Chrm Deletion	2q13-2q13	15bp insert	BAC Only	Truncation MALL	NHEJ	MALL truncation causes loss of first exon, 378Kb deletion	6P20
70	Intra-Chrm Translocation	1p36.21-1p36.21	Kb resolution	BAC Only		NHEJ		38H10
71	Intra-Chrm Inversion	Xq26.3-Xq26.3	Kb resolution	BAC Only		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 121Kb inversion	1C20
72	Intra-Chrm Inversion	9q22.31-9q33.2	50bp insert	BAC & Cell Lines	Truncation NINJ1, DENND1A	NHEJ	Truncation causes loss of NINJ1 exons 2-4 and DENND1A exons 20-22, 30Mb inversion	45A22
73	Inter-Chrm Rearrangement	3p14.2-9q33.1	31bp insert	BAC Only	Fusion ASTN2-PTPRG	NHEJ	Fusion of ASTN2.2 exons 1-10 (out of 22) with PTPRG exons 3-30	10A7,6F10
74	Intra-Chrm Inversion	9q22.1-9q22.1	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 219Kb inversion	33G6
75	Intra-Chrm Inversion	20q13.12-20q13.31	Kb resolution	BAC Only	Truncation EYA2	NHEJ	EYA2 truncation causes loss of exons 1-10 (out of 16), 9.9Mb inversion	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
76	Intra-Chrm Translocation	14q22.3-14q22.3	6bp homology	BAC Only		NHEJ		45H7
77	Intra-Chrm Inversion	1q21.1-1q21.1	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 4.2Mb inversion	16B9,2L23,5H15
78	Inter-Chrm Rearrangement	1p13.2-20q12	Kb resolution	BAC & Cell Lines	Truncation PTPRT	NHEJ	PTPRT truncation causes loss of exons 1-6 (out of 31)	35F7
79	Inter-Chrm Rearrangement	6q27-10q21.1	1bp homology	BAC Only	Truncation SFT2D1	NHEJ	SFT2D1 truncation causes loss of exons 1-7 (out of 8)	5F9
80	Inter-Chrm Rearrangement	17q23.2-20q13.13	442bp insert	BAC & Cell Lines	Fusion BCAS3-BCAS4	NHEJ	BCAS4 exon 1 fused to BCAS3 exons 23-24, Ruan et al. (Genome Research 17:828-838) verified	19O10,28H13,30O17,31E14
81	Intra-Chrm Inversion	20q12-20q13.2	2bp homology	BAC & Cell Lines	Truncation PTPRT	NHEJ	PTPRT truncation causes loss of exons 1-11 (out of 31), Human minisatellite conserved sequence/chi-like element located at aberrant join junction, 12Mb inversion	16L9,4L22,6G17,73O23,9P15
82	Inter-Chrm Rearrangement	1p13.2-3p14.2	Kb resolution	BAC Only	Truncation CADPS	NHEJ		37E22
83	Inter-Chrm Rearrangement	15q11.2-Xp21.1	Kb resolution	BAC & Cell Lines		NHEJ		17H16
84	Inter-Chrm Rearrangement	1p13.3-17q23.2	4bp homology	BAC & Cell Lines	Truncation BCAS3,NTNG1	NHEJ	Truncation joins BCAS3 exons 1-6 (out of 24) with NTNG1 exons 1-3 (out of 6) in head to head orientation	40B20,40D20,40F20,52I17,63E19,67M17,82L5
85	Intra-Chrm Inversion	17q24.3-17q25.1	1bp insert	BAC & Cell Lines	Truncation ZC3H5,AK097463	NHEJ	Truncation causes loss of ZC3H5 exons 15-17 and internal cleavage of AK097463 exon 1, 6.5Mb inversion	29A3

86	Inter-Chrm Rearrangement	5p14.3-6q14.1	Kb resolution	BAC & Cell Lines		NHEJ		15D3
87	Inter-Chrm Rearrangement	17q23.2-20q13.2	2bp insert	BAC & Cell Lines	Truncation INTS2	NHEJ	INTS2 truncation causes loss of exons 1-7 (out of 25)	10L3,13H17,1A2,3B22,3E7,3F5,3G2,5H9,5I13,8B13,8J22,8K17
88	Inter-Chrm Rearrangement	1p13.2-17q23.2	Kb resolution	Cell Lines Only	Fusion BCAS3-RSBN1	NHEJ	Fusion of RSBN1 first exon with BCAS3 exons 6-24	12F20,12O5,13L7,2B5,2H23,5P4
89	Inter-Chrm Rearrangement	17q23.2-20q13.31	Kb resolution	BAC & Cell Lines	Truncation THRAP1	NHEJ		10L3,13H17,1A2,3B22,3E7,3F5,3G2,5H9,5I13,8B13,8J22,8K17
90	Intra-Chrm Translocation	6q25.1-6q25.1	7bp homology	BAC & Cell Lines	Truncation C6orf97	NHEJ	Putative truncation of hypothetical ORF C6orf97 causing loss of exon 1	38P16
91	Intra-Chrm Translocation	8q22.2-8q22.2	47bp insert	BAC Only	Truncation FBXO43	NHEJ	FBXO43 truncation causes loss of last 2 exons (out of 5)	15I7,21H22
92	Inter-Chrm Rearrangement	3p14.1-17q23.3	7bp insert	BAC & Cell Lines	Truncation PECAM1	NHEJ	PECAM1 truncation causes loss of first 12 exons (out of 15)	20M13,29E16,30L1,6B19,6L9
93	Inter-Chrm Rearrangement	5p14.3-10q21.1	1250bp insert	BAC Only		NHEJ	Human minisatellite conserved sequence/chi-like element located at aberrant junction, 1250bp insert maps upstream of 254F in 5q23.2	5F9
94	Inter-Chrm Rearrangement	1p21.3-8q22.2	2bp homology	BAC Only		NHEJ		35I10
95	Inter-Chrm Rearrangement	1q32.1-2p11.1	Kb resolution	BAC Only	Truncation SRGAP2	NHEJ		5B18
96	Inter-Chrm Rearrangement	9q33.1-17q25.3	flush junction	BAC Only	Fusion ASTN2-TBC1D16	NHEJ	Fusion of ASTN2 exons 1-15 with TBC1D16 exons 2-12	28J21
97	Intra-Chrm Inversion	11p15.4-11p15.4	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 92Kb inversion	25B8
98	Inter-Chrm Rearrangement	17q22-20q12	1bp homology	BAC & Cell Lines	Truncation TEX14	NHEJ	TEX14 Truncation causes loss of exons 4-32	16L9,4L22,6G17,9P15
99	Intra-Chrm Translocation	11q23.3-11q23.3	83bp insert	BAC & Cell Lines	Truncation TRAPPC4	NHEJ	TRAPPC4 truncation causes cleavage of last exon	10D13,12A8,13F1,1A11,1D13,39E24,3B8,7G12
100	Intra-Chrm Inversion	8q24.21-8q24.21	Kb resolution	BAC only		NHEJ	internal BAC inversion	39B5
101	Inter-Chrm Rearrangement	17q23.2-20q13.12	1bp homology	BAC & Cell Lines	Truncation SULF2	NHEJ	SULF2 truncation causes loss of exons 20-21	18L12,21C24,29F20
102	Inter-Chrm Rearrangement	2q14.2-Xq22.1	93bp insert	BAC Only	Truncation MGC33657	NHEJ	MGC33657 truncation causes loss of exons 1-6 (out of 25), 93bp insert maps downstream on Xq22.1 and contains the repetitive DNA element MLT1D	2L1
103	Intra-Chrm Inversion	20q13.2-20q13.13	Kb resolution	BAC Only		NHEJ	6Mb inversion	14E11,1C11,2B5,2C11,8G1
104	Intra-Chrm Inversion	3p14.2-3p14.2	Kb resolution	BAC & Cell Lines	Truncation CADPS	NHEJ	188Kb inversion	26N5,29M24,30J14,37E22
105	Inter-Chrm Rearrangement	5p15.1-9p22.2	flush junction	BAC Only		NHEJ		52A4
106	Intra-Chrm Inversion	1q21.1-1q21.1	4bp homology	BAC Only		NHEJ	3Mb inversion	30J11
107	Inter-Chrm Rearrangement	5p14.1-18q12.1	flush junction	BAC Only		NHEJ		12J4
108	Inter-Chrm Rearrangement	4q24-5p11	flush junction	BAC Only	Truncation AK091523	NHEJ	AK091523 truncation causes loss of exons 3-21	4K14
109	Inter-Chrm Rearrangement	2q36.1-3p22.1	1bp homology	BAC & Cell Lines	Truncation SGPP2	NHEJ	SGPP2 truncation causes loss of exons 3-5	48O14
110	Inter-Chrm Rearrangement	1q24.1-14q24.1	1bp homology	BAC Only	Truncation RAD51L1.2	NHEJ	RAD51L1.2 truncation causes loss of last exon	13H13
111	Intra-Chrm Translocation	20q13.2-20q13.31	244bp homology	BAC & Cell Lines	Truncation AK024093	NHEJ	BP links BMP7 with ZNF217, AK024093 truncation causes loss of exons 1-3 (out of 6)	10L3,13H17,18P11,19I13,19P17,1A2,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,36L24,37P20,39A5,3B22,3E7,3F5,3G2,40H4,40J4,40L4,40L8,40N4,42L7,43G1,55F13,57N6,5H9,5I13,64O20,69F1,71O17,75M20,77H17,78P21,86J15,87A15,88I10,8B13,8J22,8K17,90F9,90K4,90P15
112	Intra-Chrm Inversion	1q21.2-1q21.2	Kb resolution	BAC only		NHEJ	internal BAC inversion	11C2,15O15
113	Inter-Chrm Rearrangement	4p15.1-14q24.3	flush junction	BAC Only		NHEJ		30A17
114	Inter-Chrm Rearrangement	1p13.3-9q31.3	18bp insert	BAC & Cell Lines	Truncation NTNG1,ZNF483	NHEJ	NTNG1 truncation causes loss of exons 1-5 (out of 6), ZNF483 truncation causes loss of exons 1-5 (out of 6)	25I5
115	Intra-Chrm Translocation	1q12-1q12	2bp homology	BAC Only	Truncation AF277188	NAHR	AD277188 truncation causes loss of first exon, NAHR exhibits equal recombination	15I17

116	Inter-Chrm Rearrangement	1p13.1-9q22.31	24bp homology (BAC)- flush junction (MCF7 Cell Line)	BAC & Cell Lines	Truncation PTGFRN	NHEJ	PTGFRN truncation causes loss of first exon, different aberrant join junction sequences between BAC and MCF7-Cell Line Pool data	57N23
117	Intra-Chrm Inversion	20q13.2-20q13.2	Kb resolution	BAC only		NHEJ	internal BAC inversion	26N5,29M24,30J14
118	Intra-Chrm Inversion	20q13.2-20q13.31	Kb resolution	Cell Lines Only		NHEJ	2.8Mb inversion	10L3,13H17,18P11,19I13,19P17,1A2,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,36L24,37P20,39A5,3B22,3E7,3F5,3G2,40H4,40J4,40L4,40L8,40N4,42L7,43G1,55F13,57N6,5H9,5I13,64O20,69F1,71O17,75M20,77H17,78P21,86J15,87A15,88I10,8B13,8J22,8K17,90F9,90K4,90P15
119	Inter-Chrm Rearrangement	18p11.21-21q11.2	Kb resolution	BAC Only		NHEJ	BES links this BAC segment 13q11 (no aberrant join called due to absense of FES)	16D15
120	Inter-Chrm Rearrangement	3p14.2-20q13.2	Kb resolution	BAC & Cell Lines		NHEJ		26N5,29M24,30J14
121	Intra-Chrm Inversion	20q13.13-20q13.13	Kb resolution	BAC Only	Truncation ARFGF2	NHEJ	ARFGF2 truncation causes loss of first exon, 35Kb inversion	14E11,1C11,2B5,2C11,8G1
122	Inter-Chrm Rearrangement	15q11.2-16q22.2	Kb resolution	BAC & Cell Lines	Truncation HYDIN	NHEJ		16B9,2L23,5H15
123	Intra-Chrm Deletion	9p11.2-9q12	Kb resolution	BAC Only		NHEJ	22Mb deletion	14B24
124	Inter-Chrm Rearrangement	9p11.2-20q11.1	Kb resolution	BAC Only	Truncation NM_207470	NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution	14B24
125	Inter-Chrm Rearrangement	2p11.1-22q11.21	Kb resolution	BAC & Cell Lines		NHEJ		29M8
126	Intra-Chrm Translocation	1p13.1-1p13.1	2bp homology	BAC & Cell Lines	Truncation IGSF3	NHEJ	IGSF3 truncation causes loss of exons 1-8 (out of 11)	55O2
127	Intra-Chrm Inversion	7p22.1-7p22.1	231bp insert	BAC Only	Truncation LOC222967	NAHR	LOC222967 truncation causes loss of exons 1-17 (out of 21), NAHR exhibit equal recombination, 895Kb inversion	23G6
128	Intra-Chrm Inversion	1p13.2-1p13.2	Kb resolution	BAC only		NHEJ	internal BAC inversion	12F20,12O5,13L7,2B5,2H23,5P4
129	Intra-Chrm Inversion	17p11.2-17p11.2	Kb resolution	BAC Only		NHEJ	1.6Mb inversion	32C14
130	Intra-Chrm Inversion	20q13.12-20q13.13	Kb resolution	BAC Only	Truncation PARD6B	NHEJ	PARD6B truncation causes loss of last exons 1-2 (out of 3), 3.3MB inversion	19O10,28H13,30O17,31E14
131	Intra-Chrm Inversion	9p11.2-9q12	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 22Mb inversion	41P21,41P22
132	Inter-Chrm Rearrangement	3p14.1-20q12	Kb resolution	Cell Lines Only	Truncation PTPRT,ATXN7	NHEJ	Truncations cause loss of PTPRT exons 17-31 and loss of ATXN7 exons 1-5 (out of 13)	18P11,19I13,19P17,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3F5
133	Intra-Chrm Inversion	2q11.2-2q11.2	Kb resolution	BAC only		NHEJ	internal BAC inversion	10N1
134	Intra-Chrm Inversion	1p13.3-1p13.3	Kb resolution	BAC & Cell Lines		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 160Kb inversion	3L12,5I15
135	Inter-Chrm Rearrangement	13q31.1-20p12.3	Kb resolution	BAC Only		NHEJ		13M22,8H6
136	Intra-Chrm Deletion	10q11.23-10q11.23	Kb resolution	BAC & Cell Lines	Truncation AK127766	NAHR	NAHR exhibit equal recombination, 323Kb deletion	22B18,35P19
137	Inter-Chrm Rearrangement	1p13.2-17q23.2	83bp insert	BAC Only		NHEJ	83bp insert has no mapping	47G17
138	Inter-Chrm Rearrangement	17q23.2-20q13.31	2bp homology	BAC & Cell Lines		NHEJ		10L3,13H17,18P11,19I13,19P17,1A2,20M7,21A15,22B20,23G19,23I6,24G6,24L9,25G15,26L6,29C9,30P20,31O20,32G7,32M11,34A7,34G14,35A16,3B22,3E7,3F5,3G2,5H9,5I13,8B13,8J22,8K17
139	Intra-Chrm Inversion	2q13-2q13	Kb resolution	BAC Only		NHEJ	670Kb inversion	6P20
140	Intra-Chrm Inversion	17p11.2-17p11.2	Kb resolution	BAC Only		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 1.8Mb inversion	32C14
141	Intra-Chrm Inversion	2p11.2-2p11.1	Kb resolution	Cell Lines Only		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution, 3.6Mb inversion	36D4
142	Intra-Chrm Deletion	8p23.2-8p23.2	Kb resolution	BAC & Cell Lines		NHEJ	21Kb deletion	12D21

143	Intra-Chrm Translocation	9p11.2-9q12	Kb resolution	Cell Line Only		NAHR	Unconfirmed NAHR sequence conservation due to lack of base pair resolution	41P21,41P22
144	Inter-Chrm Rearrangement	1q25.1-18p11.21	Kb resolution	Cell Line Only	Truncation C18orf1-RABGAP1L	NHEJ	Putative fusion of hypothetical C18orf1 with RABGAP1L	41L6
145	Intra-Chrm Inversion	20q13.12-20q13.13	Kb resolution	BAC & Cell Line	Fusion BCAS4-PRKCBP1	NHEJ	Fusion of BCAS4 exon 1 with PRKCBP1 exons 5-22, 3.5Mb inversion	19O10,28H13,30O17,31E14
146	Inter-Chrm Rearrangement	10p15.3-20q13.2	Kb resolution	BAC & Cell Line		NHEJ		20M13,29E16,30L1
147	Inter-Chrm Rearrangement	3p12.1-20q13.12	Kb resolution	BAC Only	Truncation EYA2	NHEJ	EYA2 truncation causes loss of exons 1-10 (out of 16)	10D13,12A8,13F1,1A11,1D13,3B8,7G12
148	Intra-Chrm Inversion	1q21.1-1q21.1	Kb resolution	BAC Only	Truncation AY894562	NHEJ	1.5Mb inversion	30J11
149	Intra-Chrm Inversion	3q29-3q29	Kb resolution	BAC Only	Truncation MUC20	NHEJ	MUC20 truncation causes loss of exons 6-7, 279Kb inversion	37O16
150	Intra-Chrm Insertion	4p11-4p11	Kb resolution	BAC Only		NHEJ	66Kb insertion	21K22,30M7
151	Intra-Chrm Inversion	11q14.3-11q14.3	Kb resolution	BAC only		NHEJ	internal BAC inversion	22H1,23A18
152	Intra-Chrm Inversion	9q22.32-9q34.12	47bp insert	BAC Only	Truncation ABL1	NHEJ	ABL1 truncation causes rearrangement of exon 1 (promoter) , 56.7Mb inversion	5K16
153	Intra-Chrm Translocation	20q13.2-20q13.13	236bp homology	BAC Only	Truncation NCOA3	NHEJ	NCOA3 truncation causes loss of exons 1-19 (out of 23)	14E11,1C11,2B5,2C11,8G1
154	Intra-Chrm Inversion	7q35-7q35	Kb resolution	BAC only		NHEJ	internal BAC inversion	4K2,6P32
155	Intra-Chrm Inversion	3p14.2-3p14.2	3bp homology	BAC & Cell Line	Truncation CADPS	NHEJ	CADPS truncation causes loss of first exon , 372Kb inversion	26N5,29M24,30J14
156	Inter-Chrm Rearrangement	3p14.1-20q13.31	Kb resolution	BAC & Cell Line		NHEJ		10L3,13H17,1A2,36L24,37P20,39A5,3B22,3E7,3F5,3G2,40H4,40J4,40L4,40L8,40N4,42L7,43G1,55F13,57N6,5H9,5I13,64O20,69F1,71O17,75M2,0,77H17,78P21,86J15,87A15,88I10,8B13,8J22,8K17,90F9,90K4,90P15
157	Intra-Chrm Inversion	11q14.3-11q14.3	Kb resolution	BAC only		NHEJ	internal BAC inversion	22H1,23A18