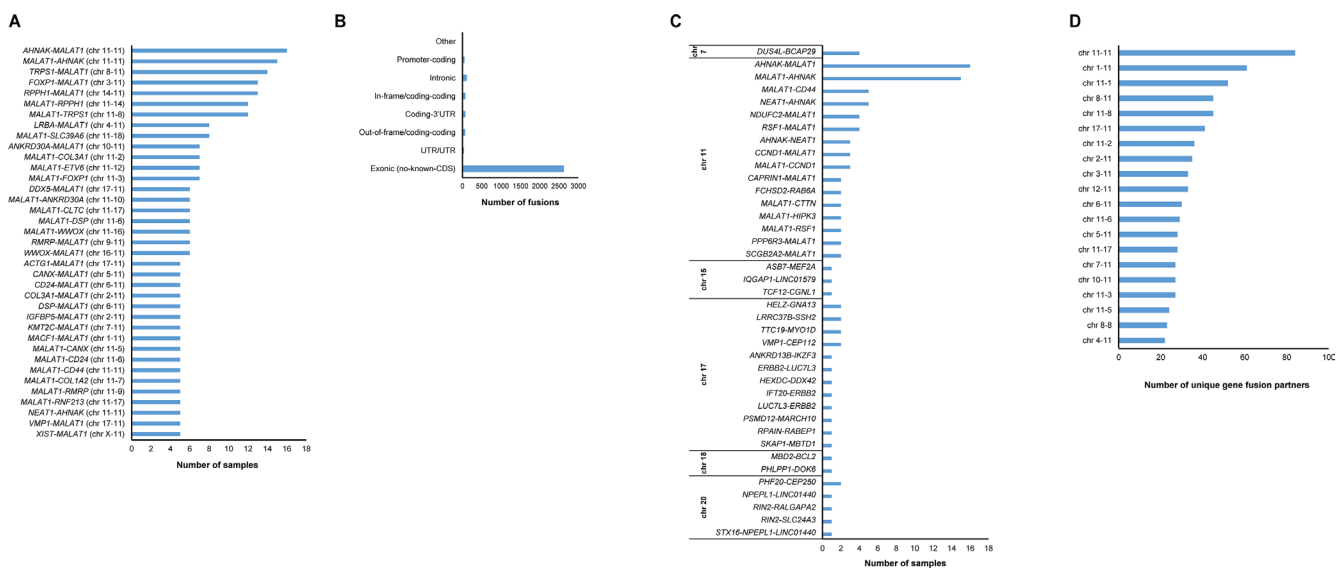
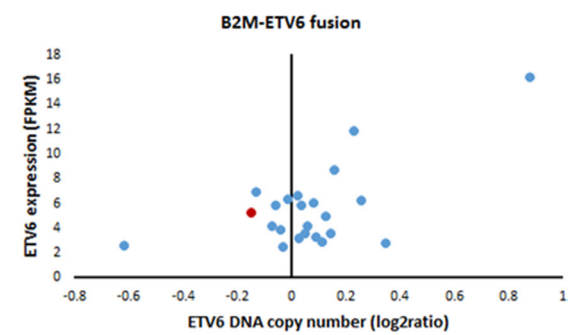
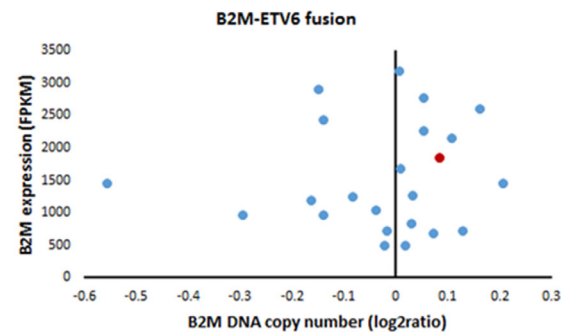
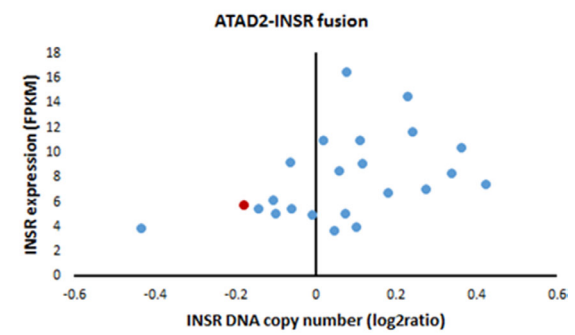
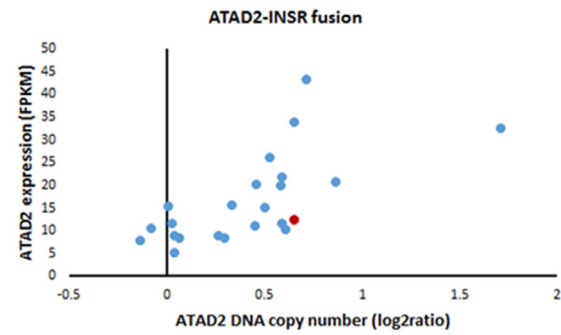
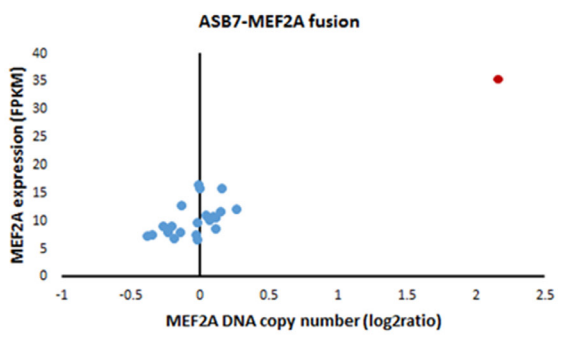
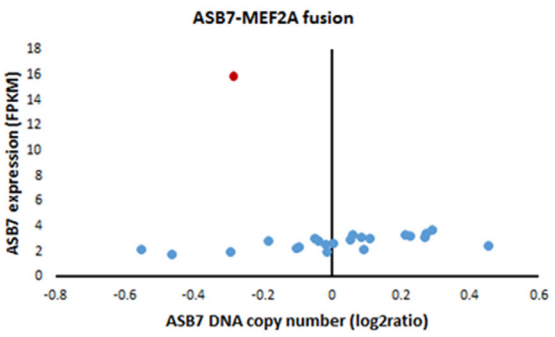
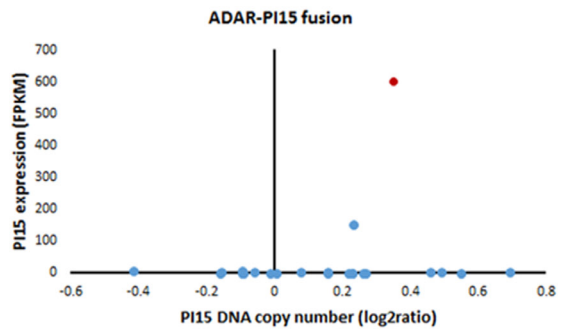
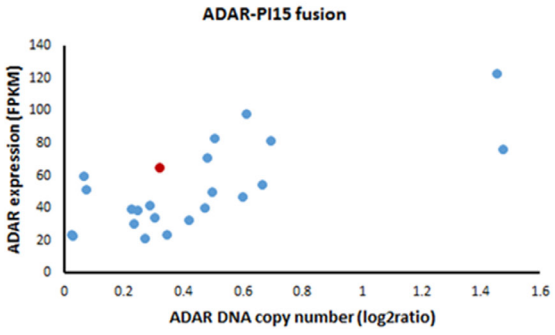
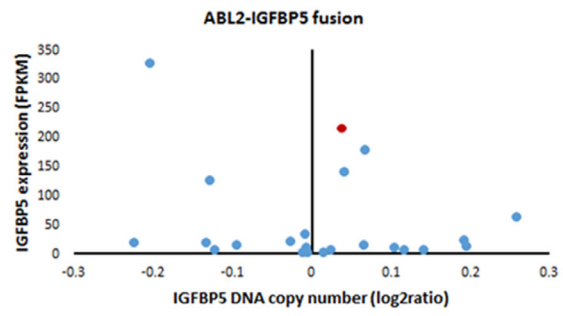
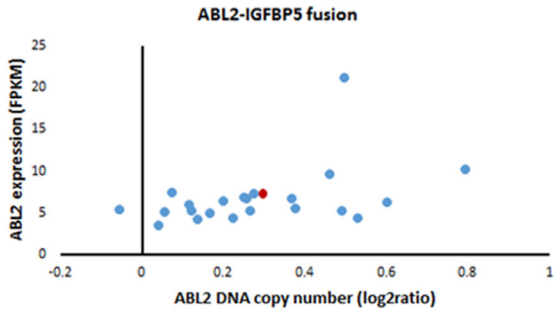


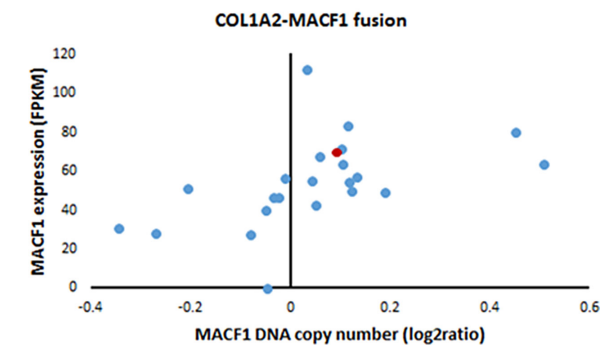
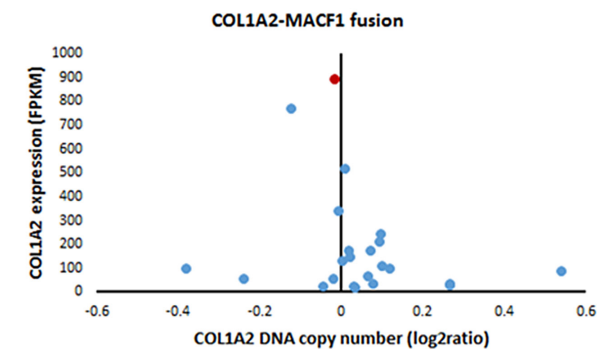
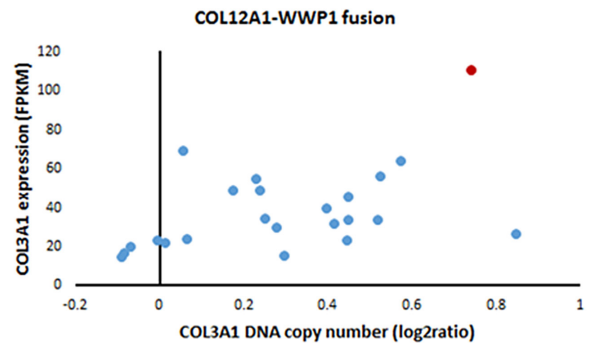
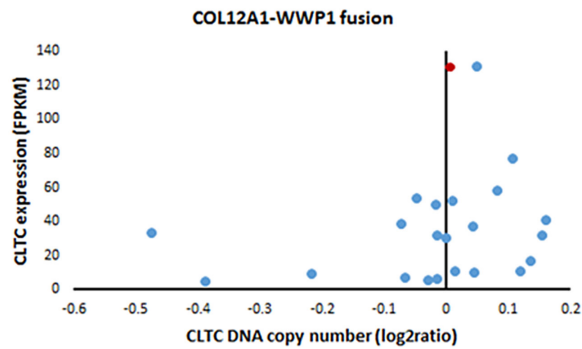
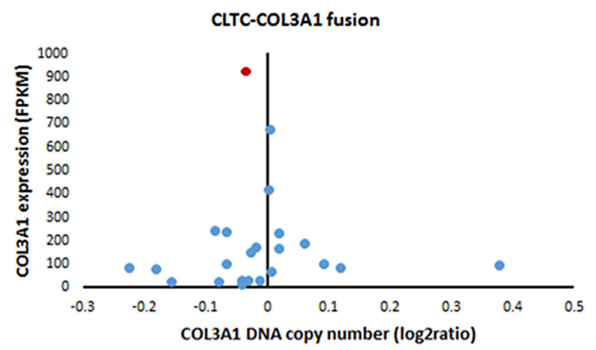
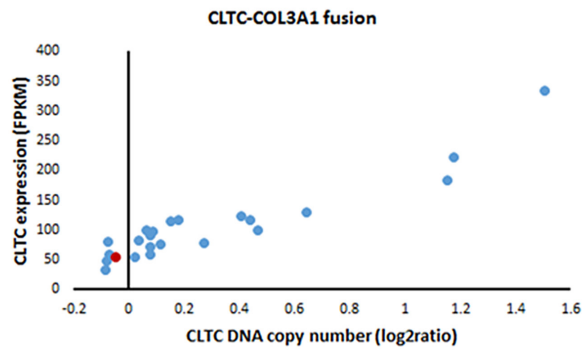
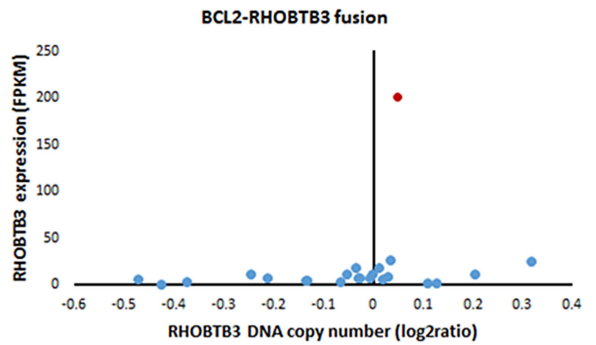
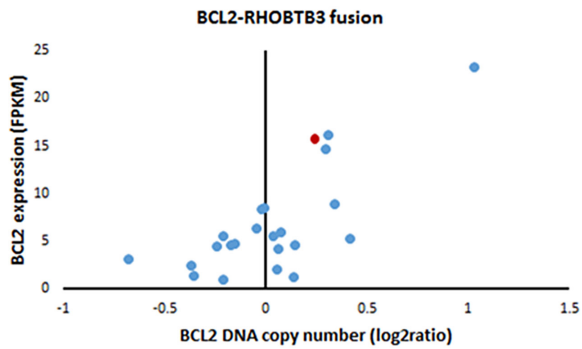
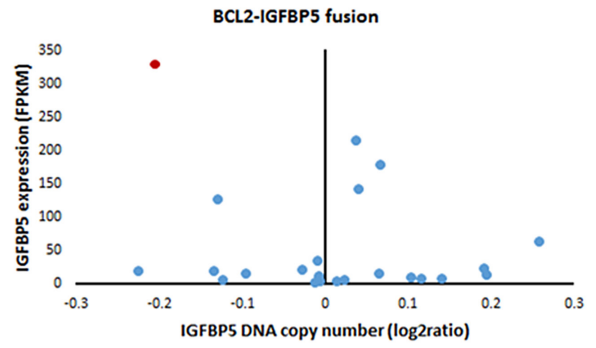
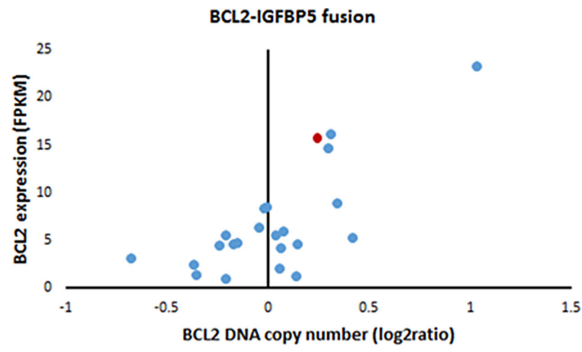
Genome-wide multi-omics profiling of the 8p11-p12 amplicon in breast carcinoma

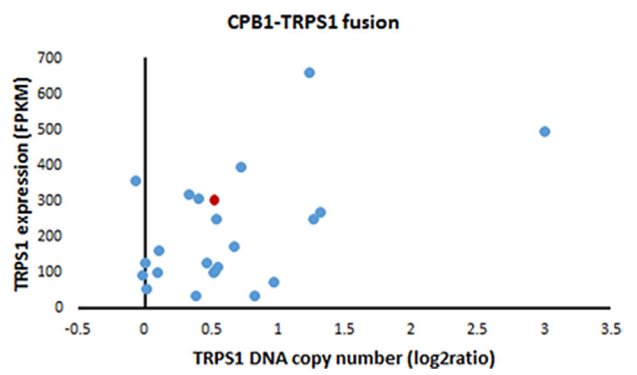
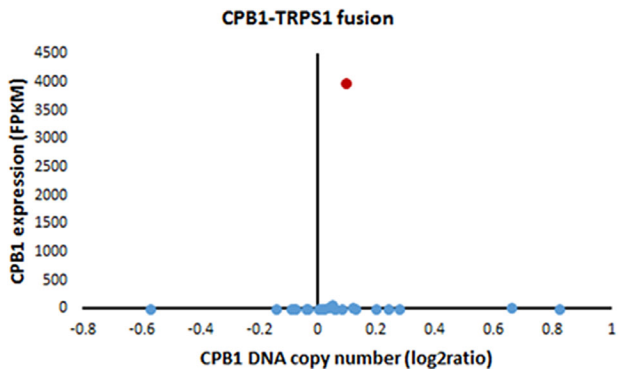
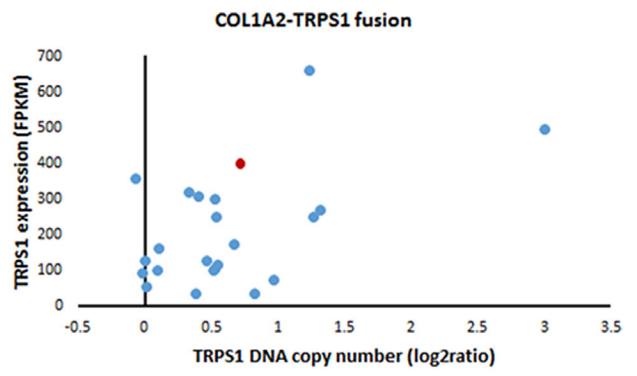
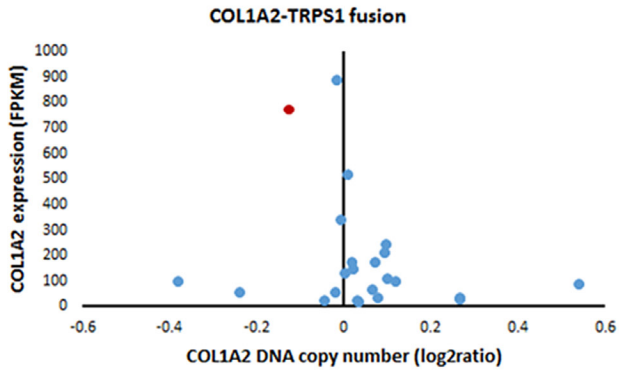
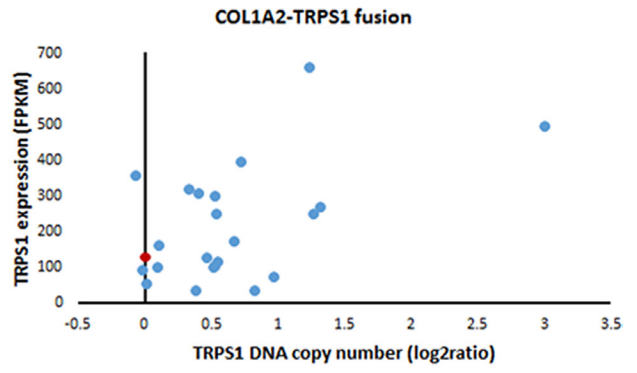
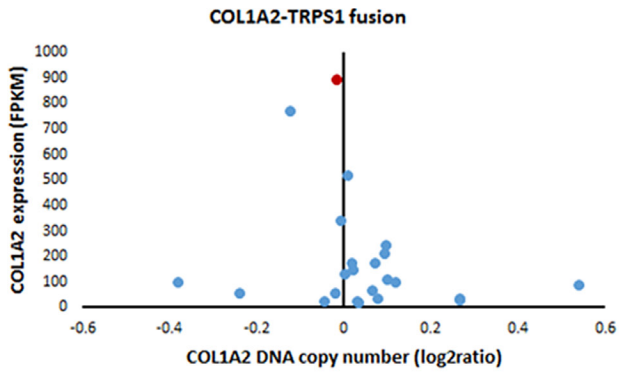
SUPPLEMENTARY MATERIALS

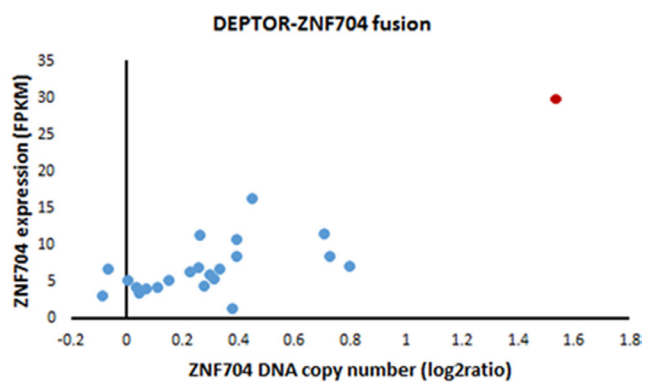
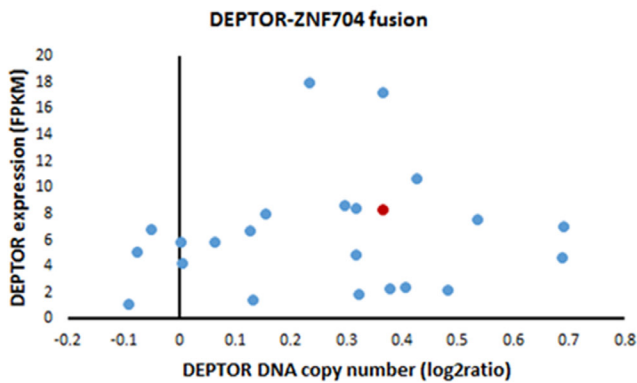
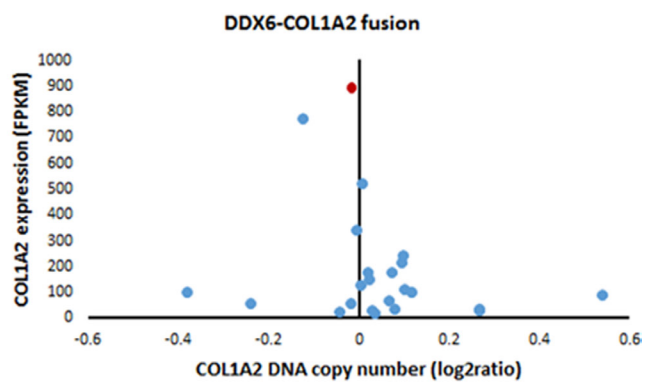
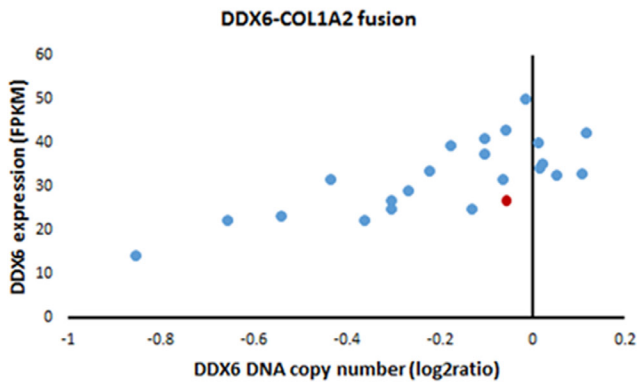
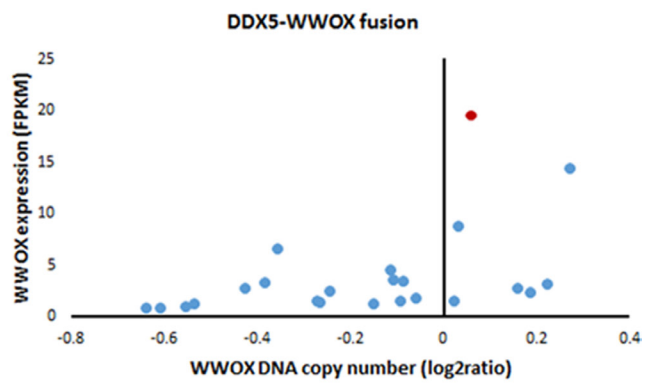
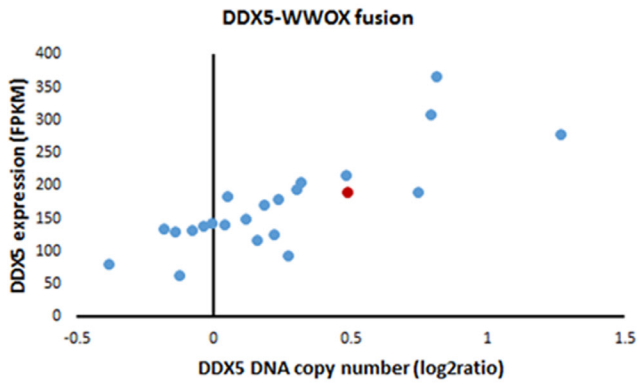
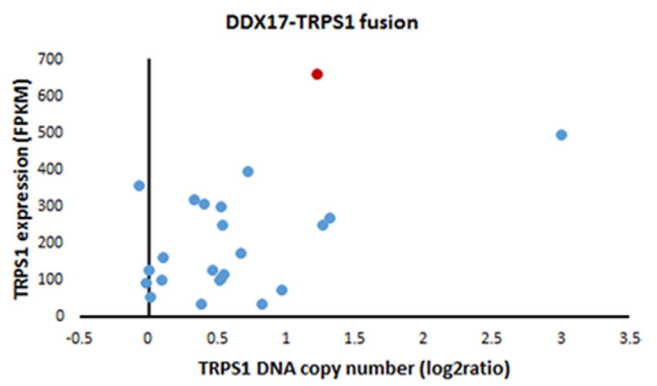
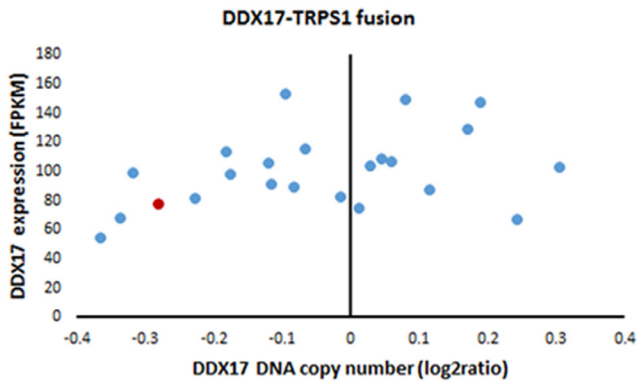


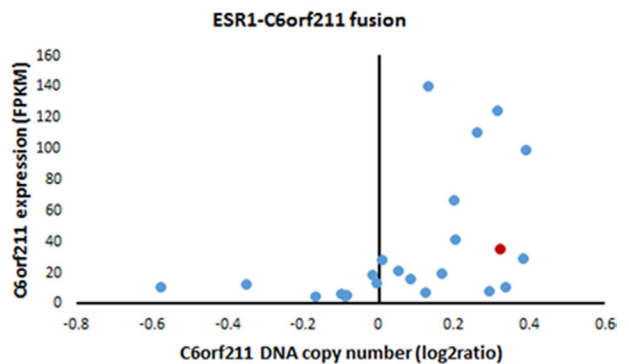
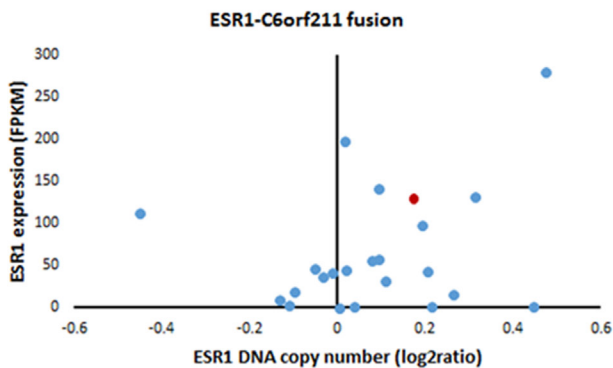
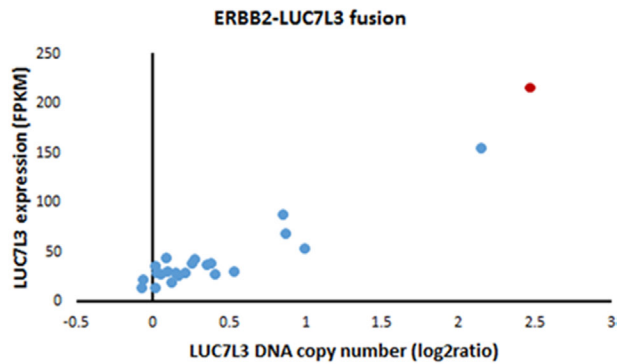
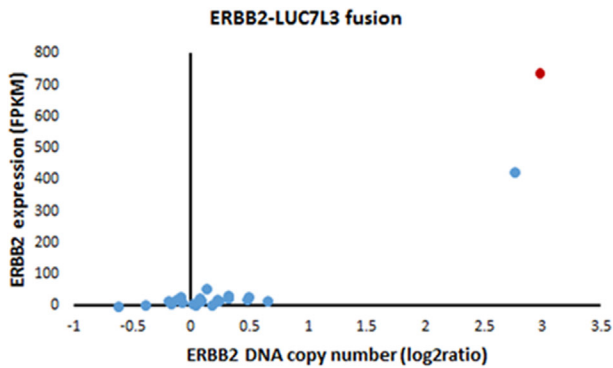
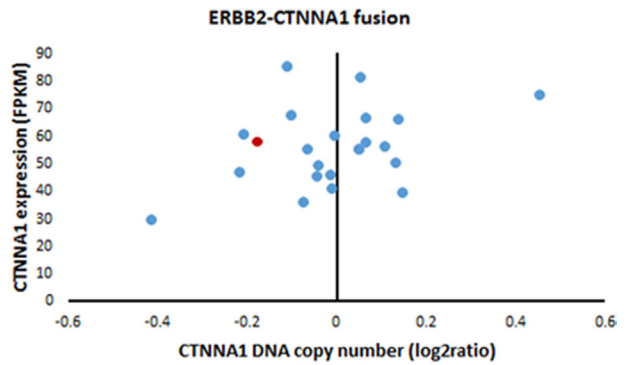
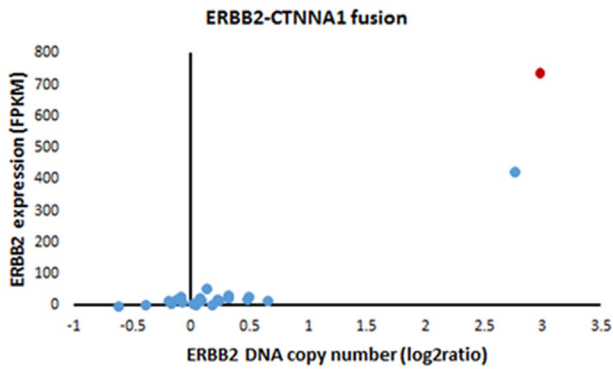
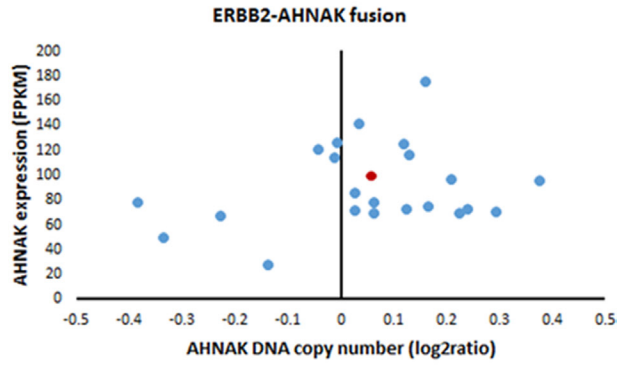
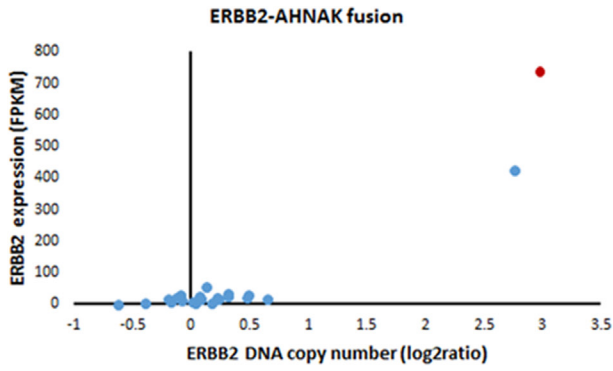
Supplementary Figure 1: The *MALAT1* ncRNA is a promiscuous gene fusion partner in 8p11-p12 amplified breast carcinomas. Bar plots depicting (A) recurrent fusion transcripts found in at least five samples, (B) the distribution of the predicted effect of the 3,052 identified fusion transcripts, (C) intrachromosomal fusions, and (D) the number of unique gene fusion partners in the top 20 chromosome (chr) pairs.

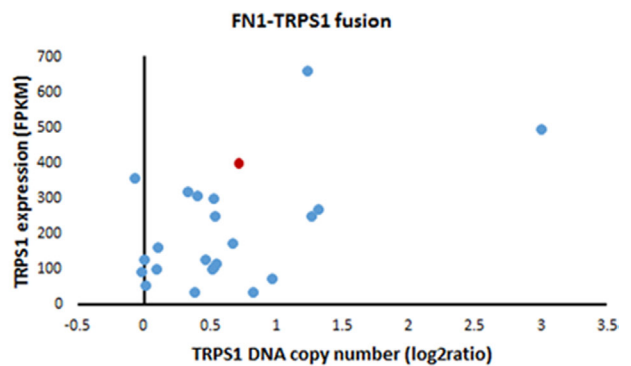
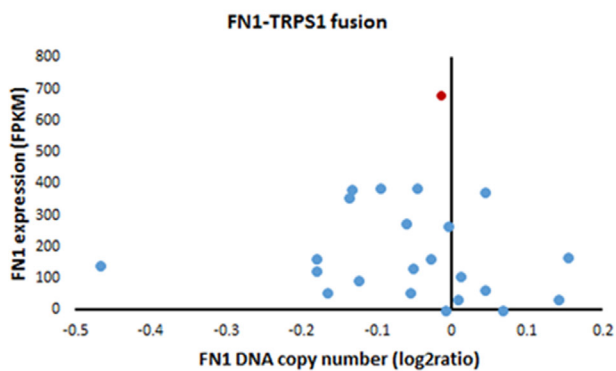
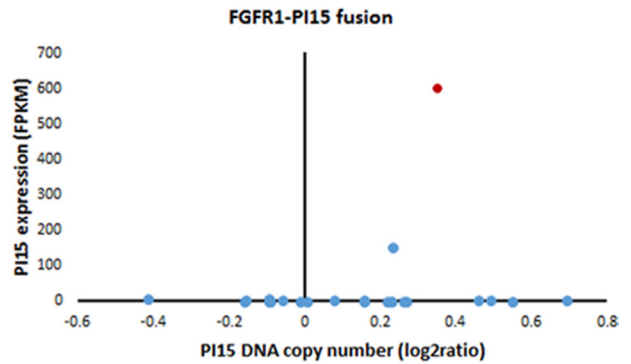
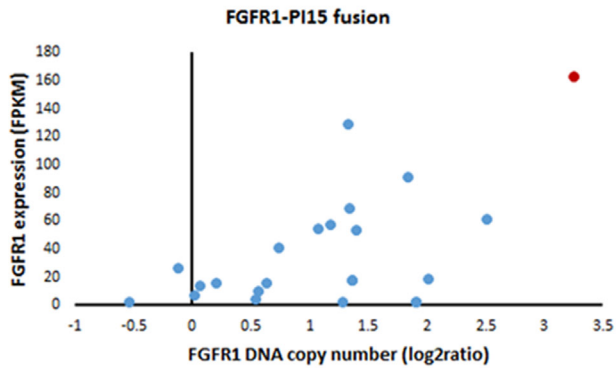
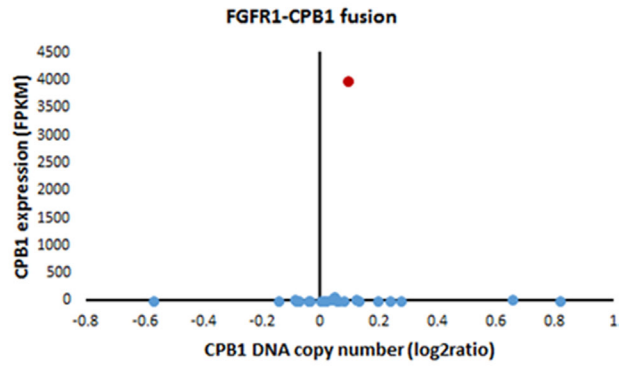
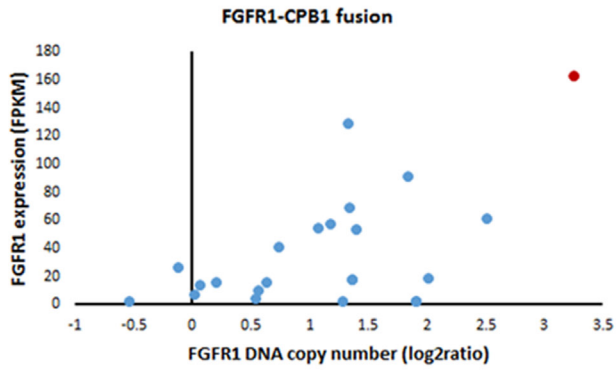
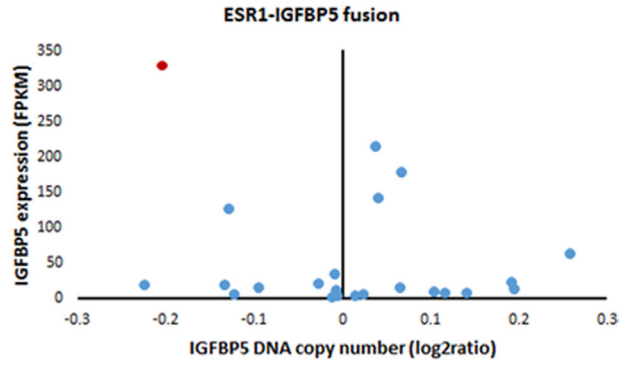
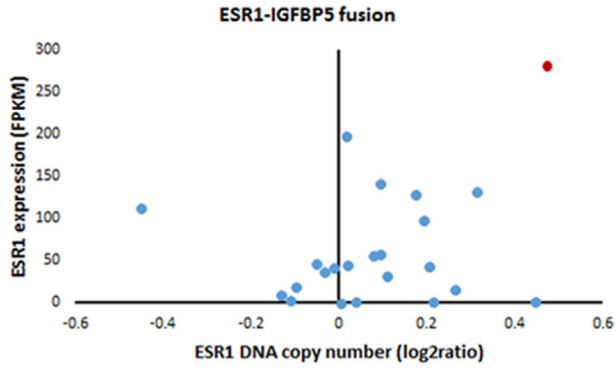


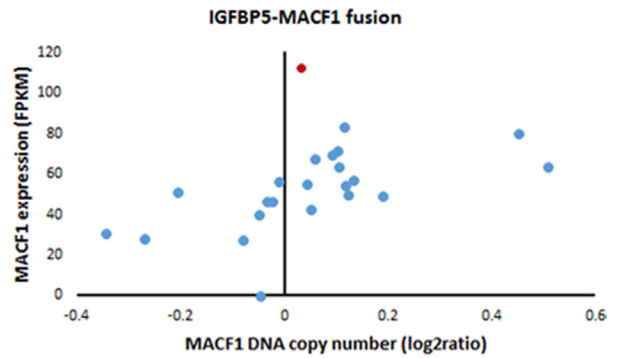
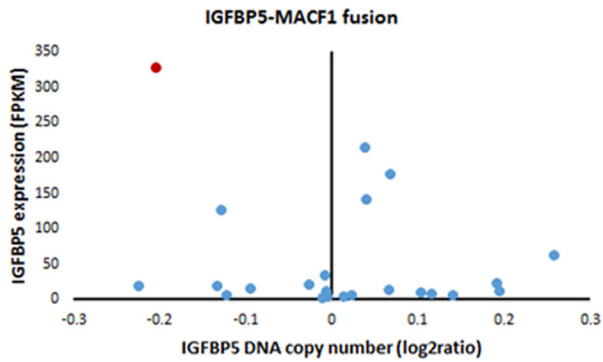
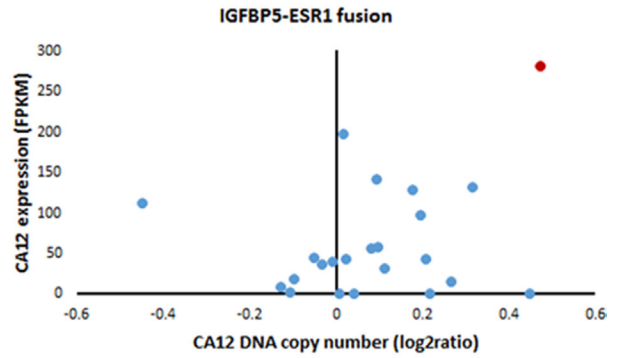
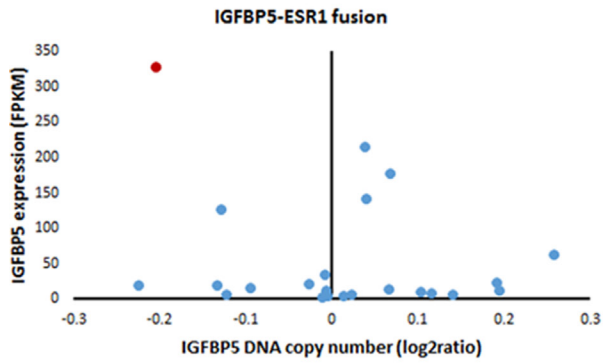
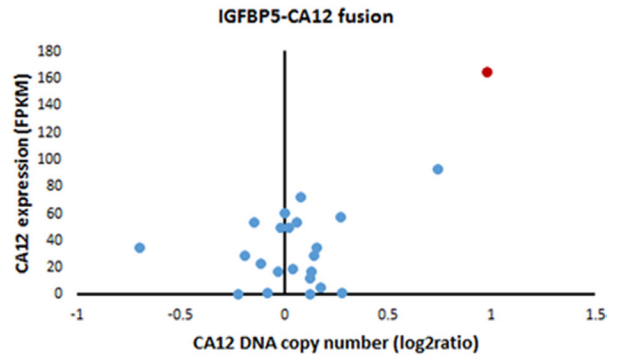
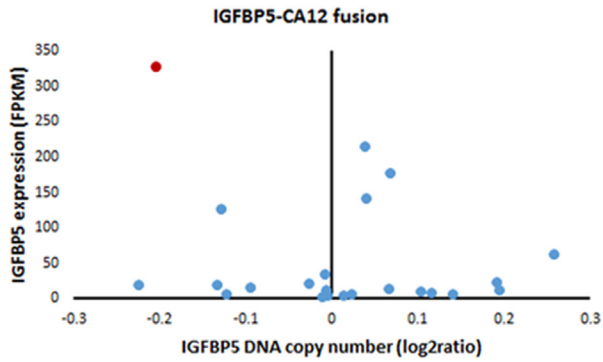
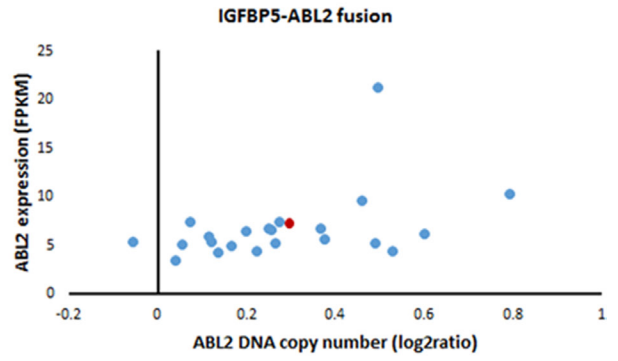
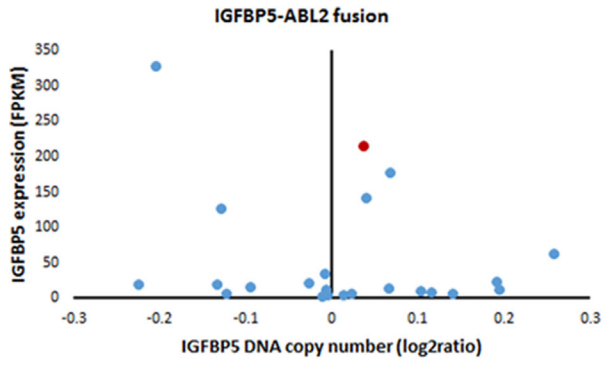


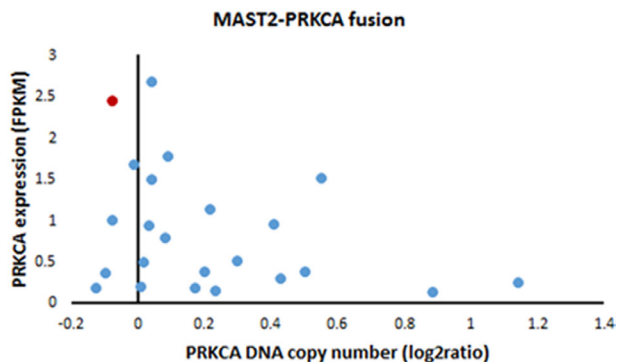
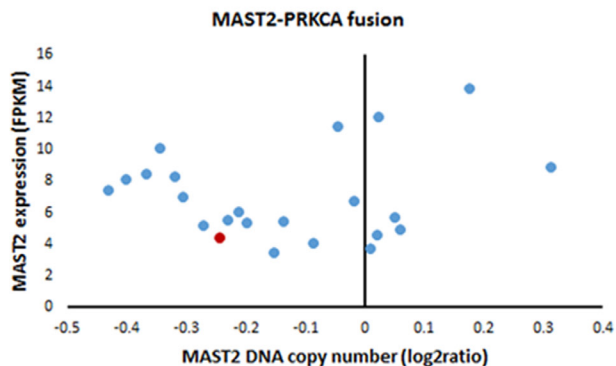
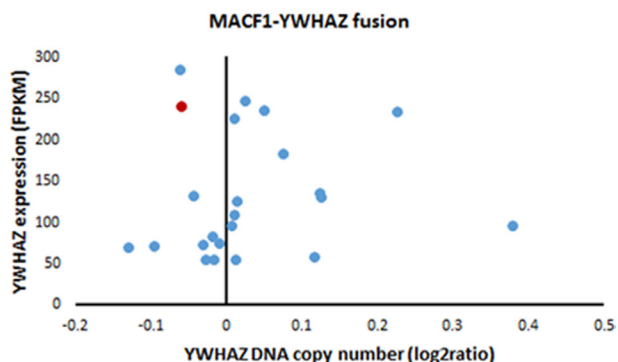
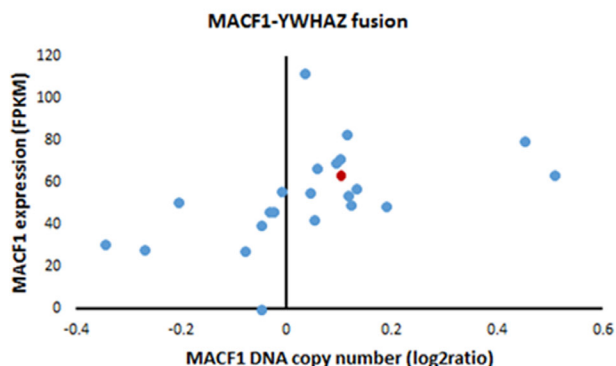
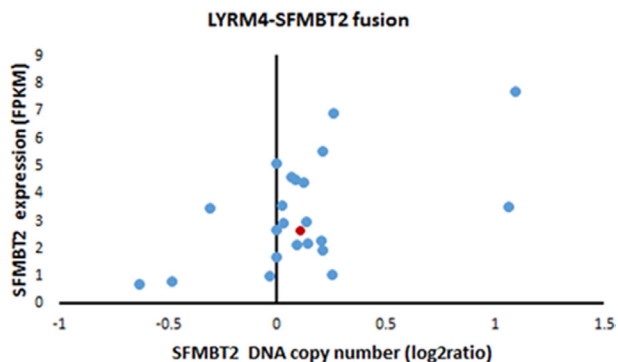
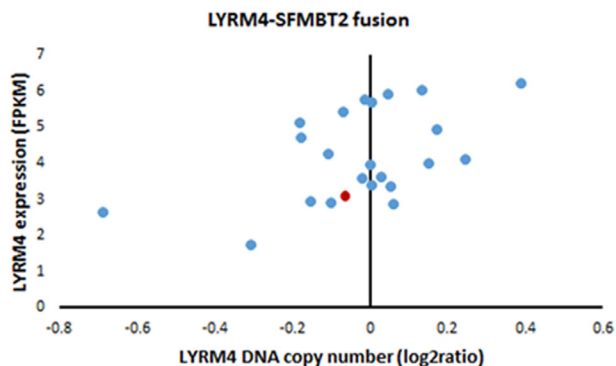
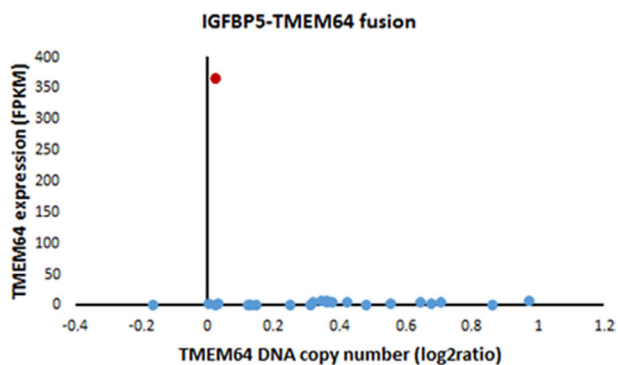
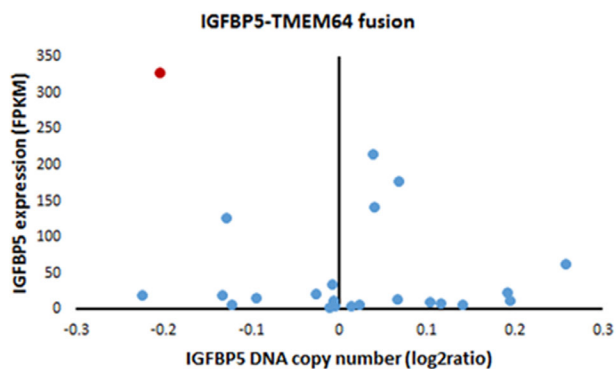


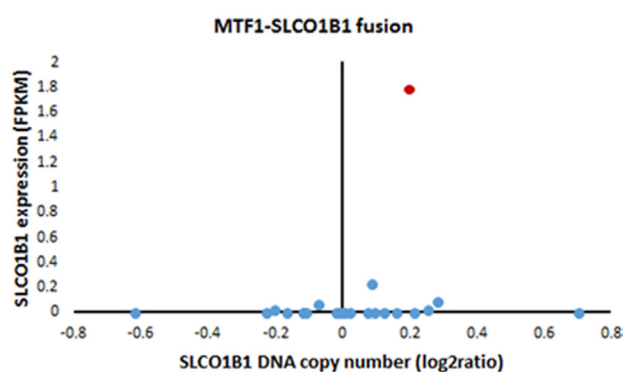
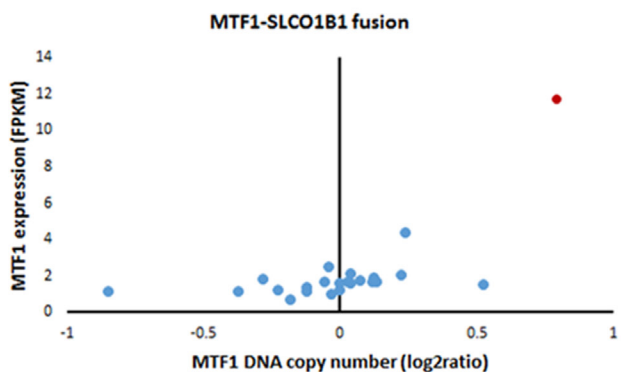
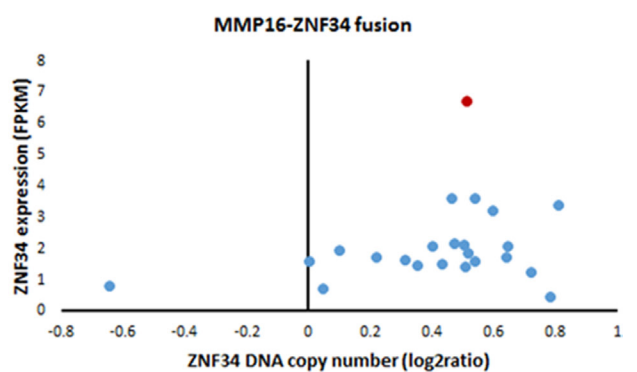
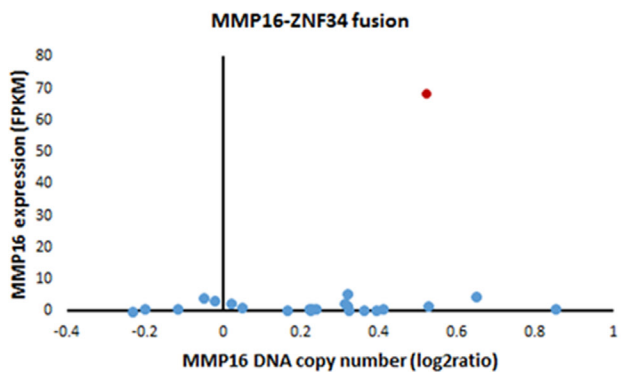
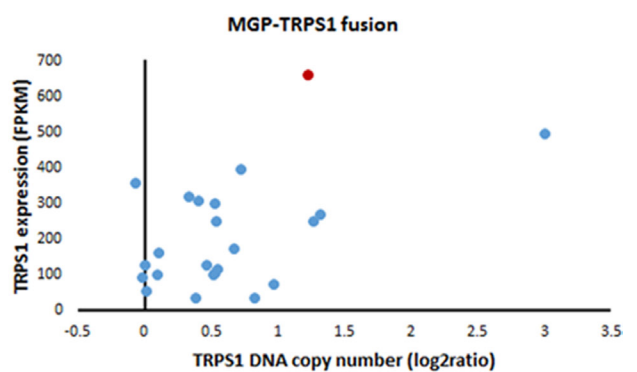
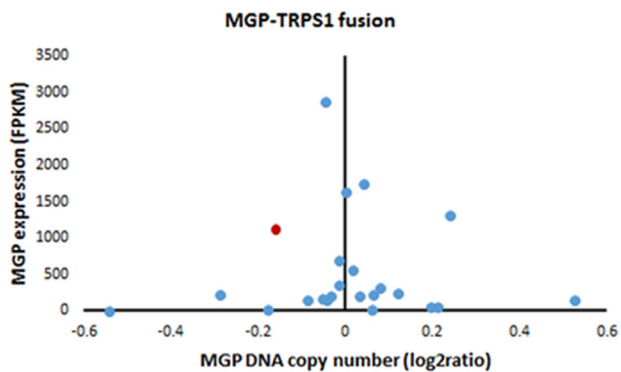
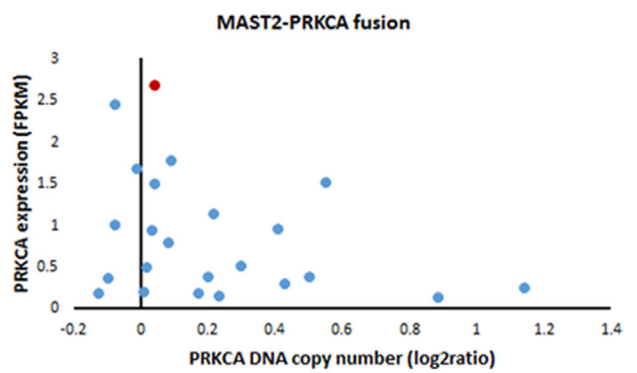
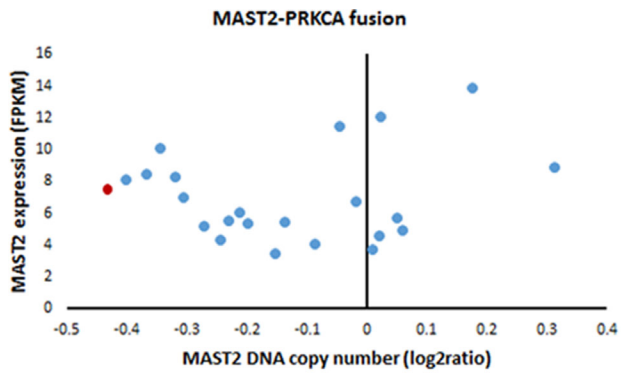


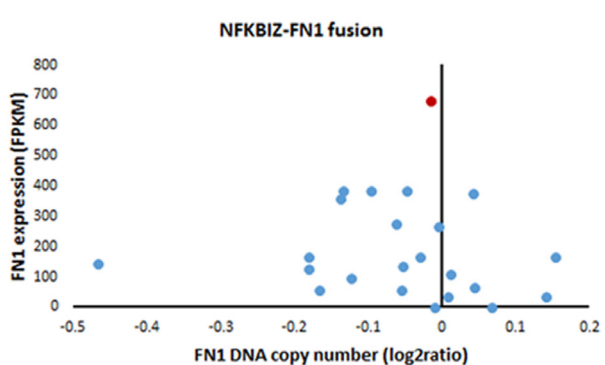
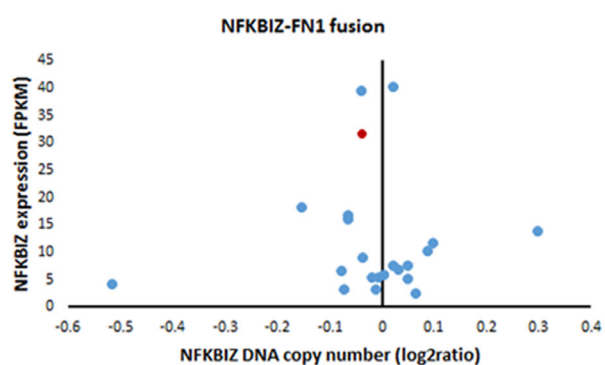
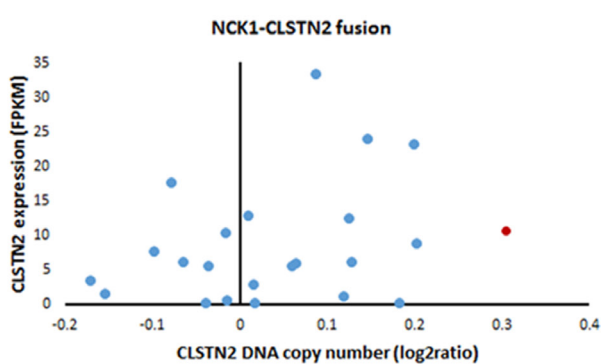
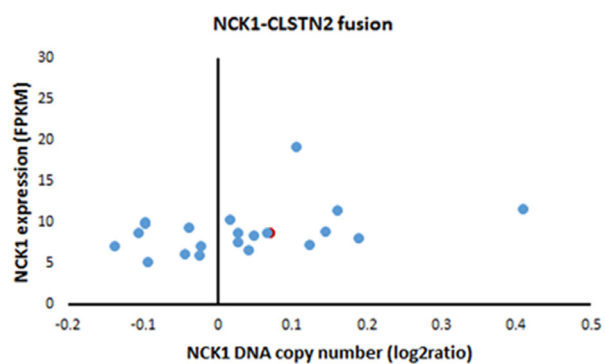
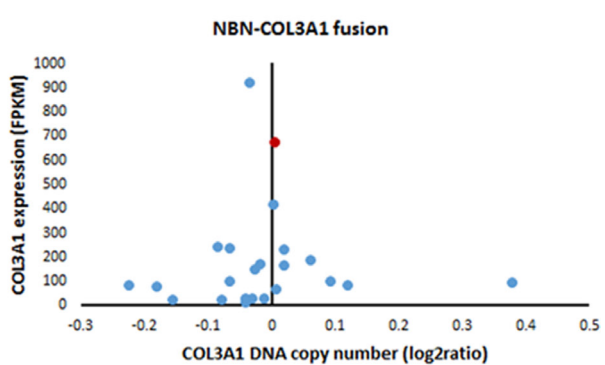
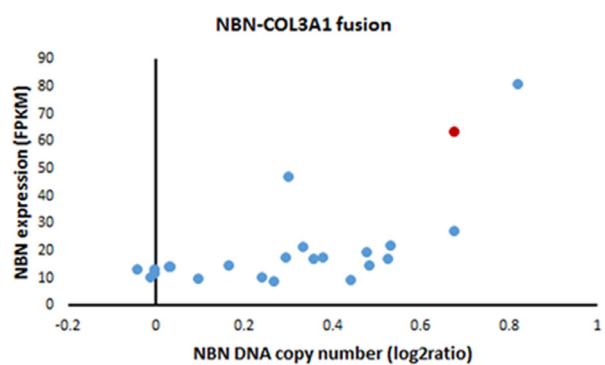
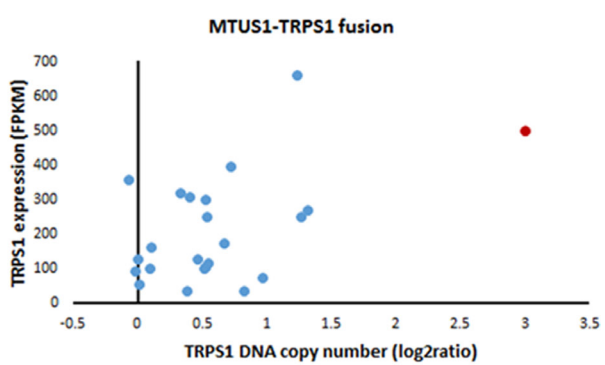
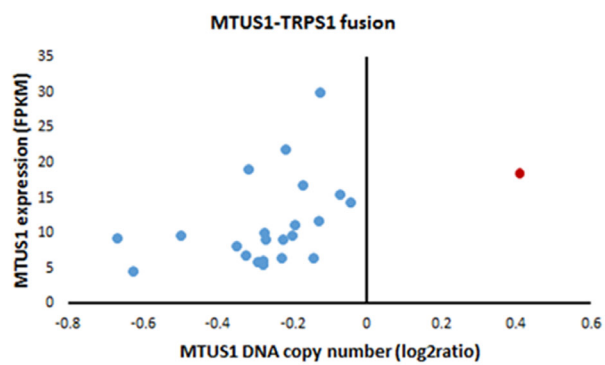


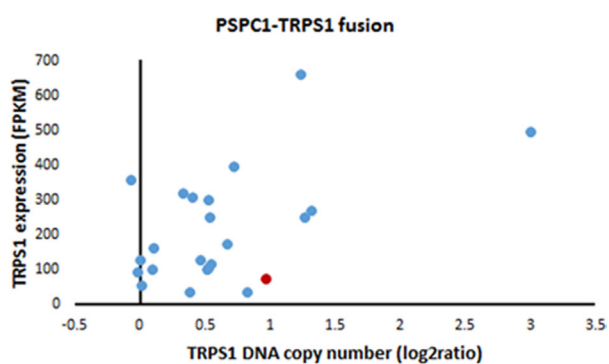
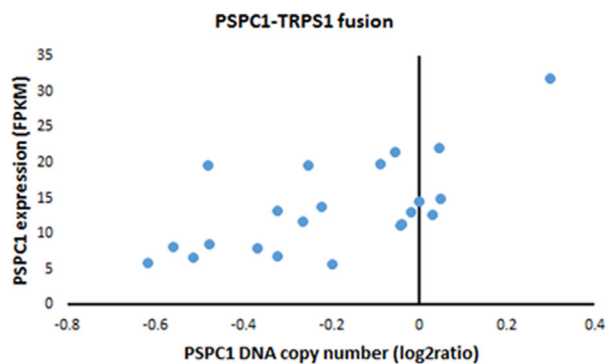
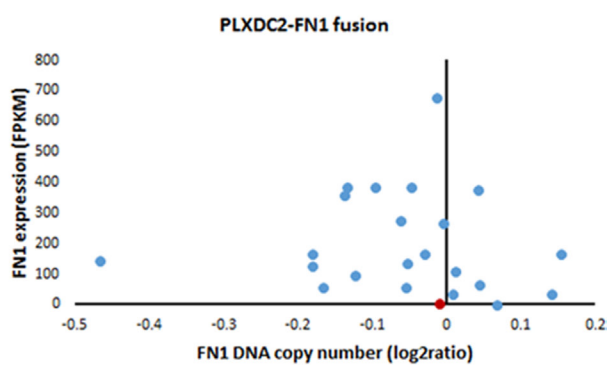
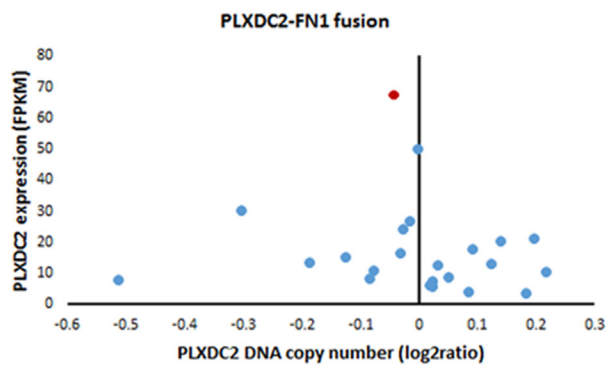
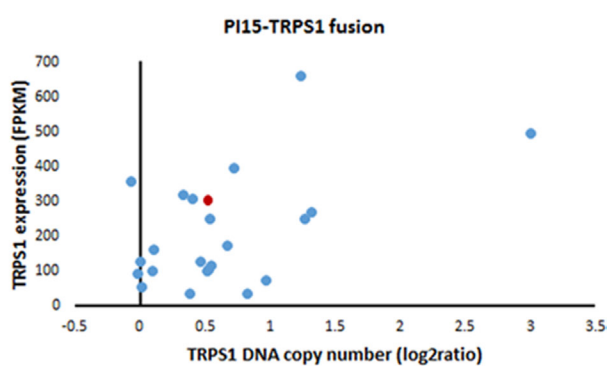
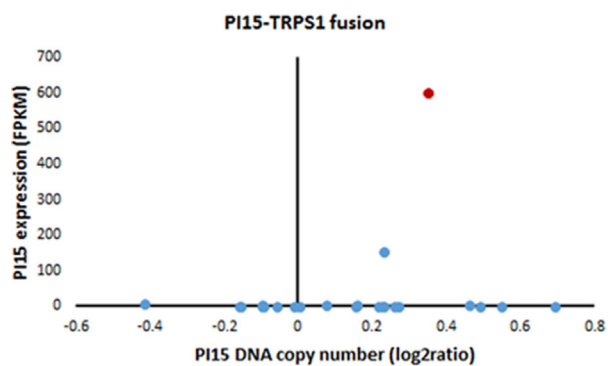
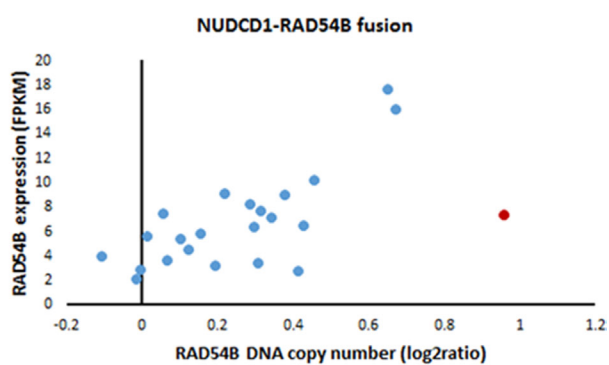
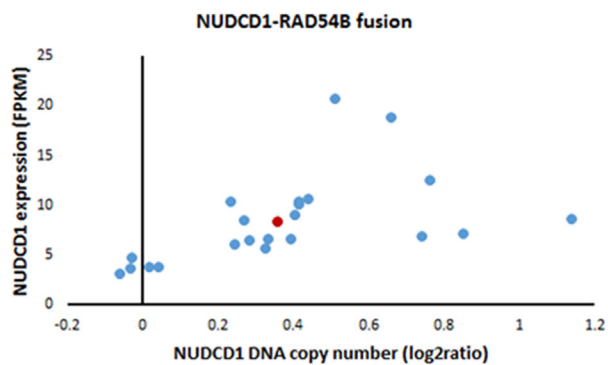


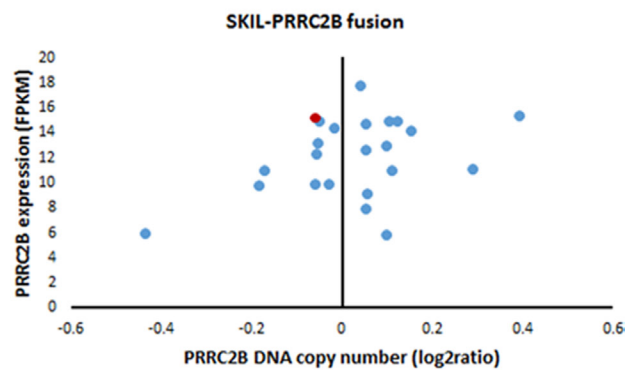
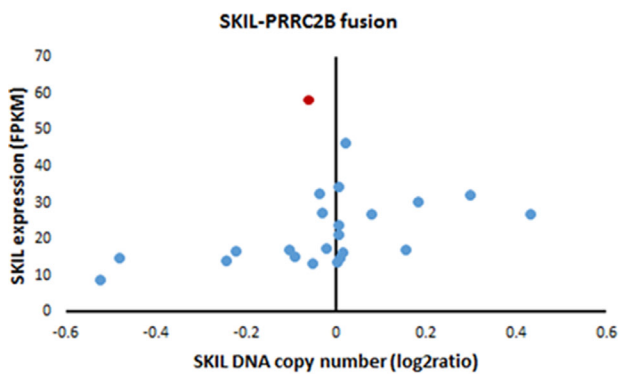
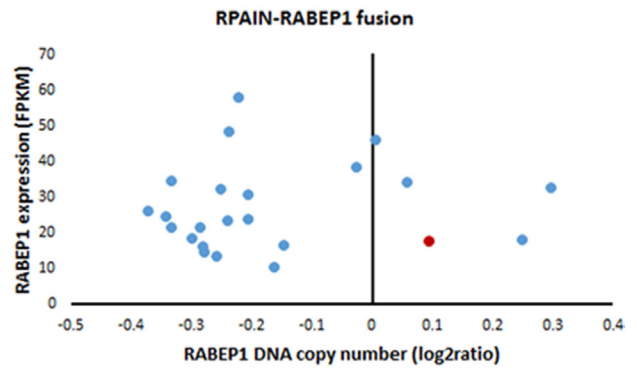
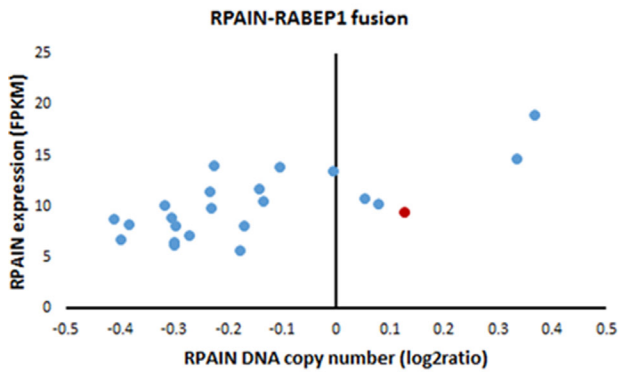
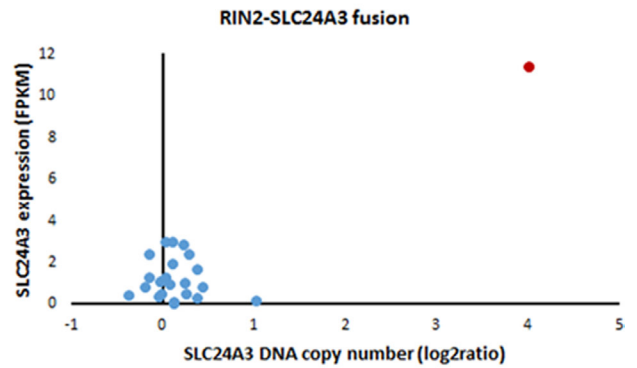
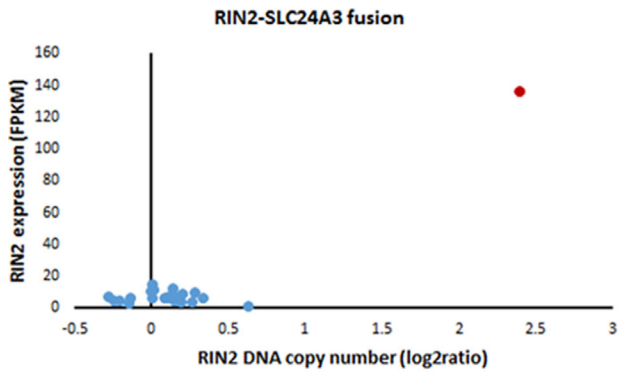
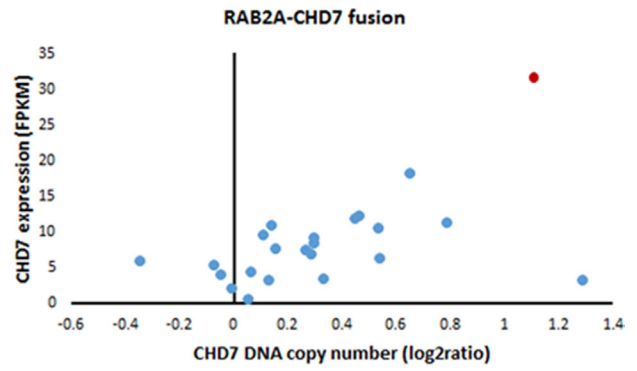
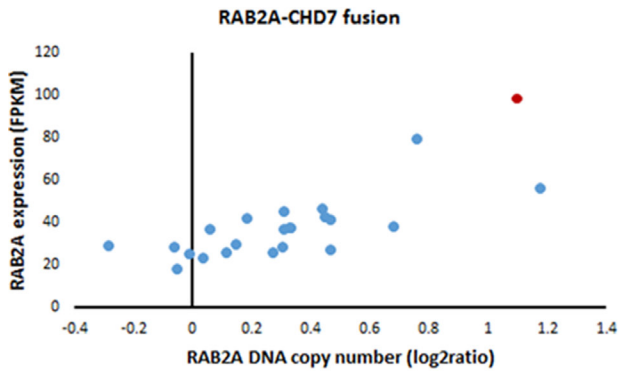


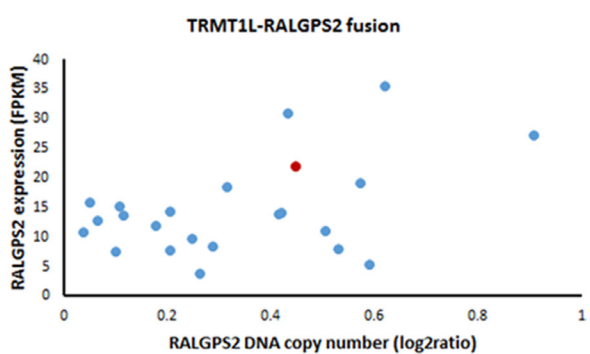
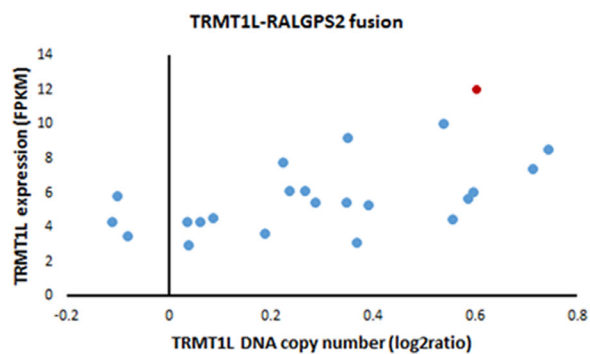
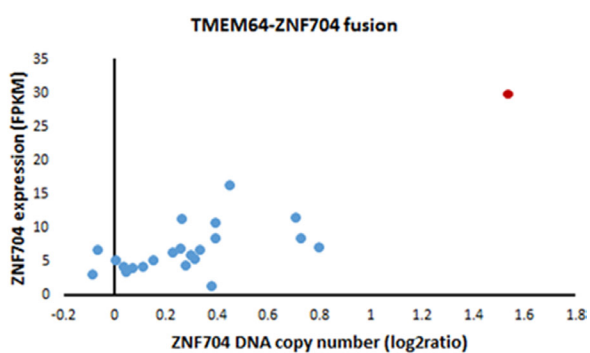
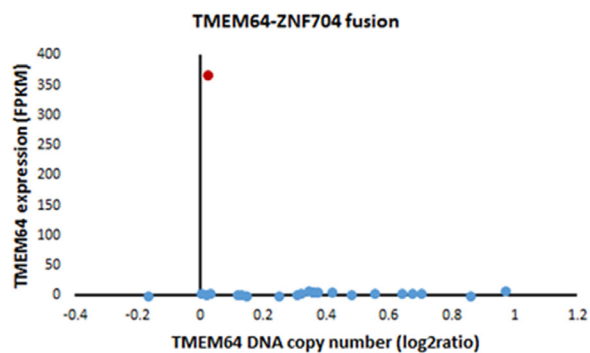
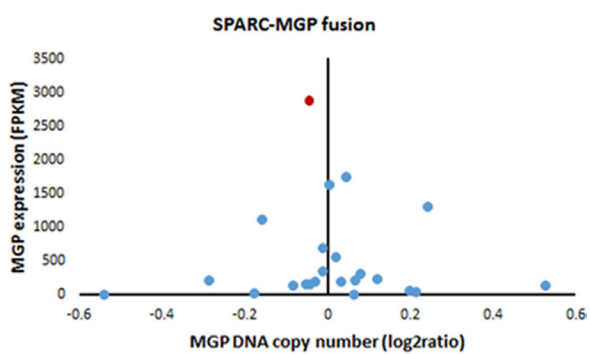
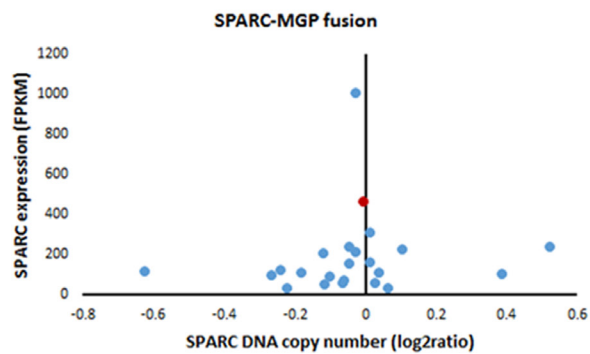
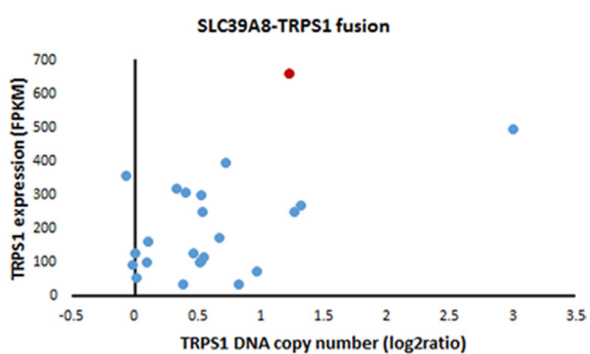
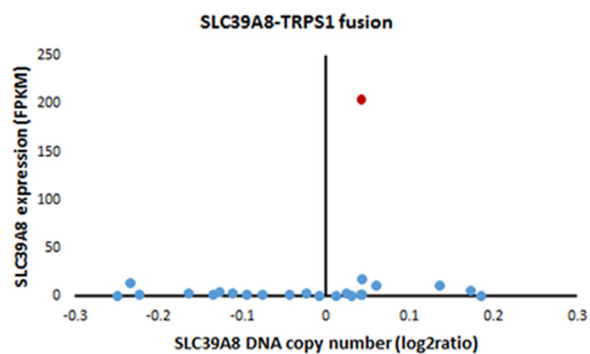


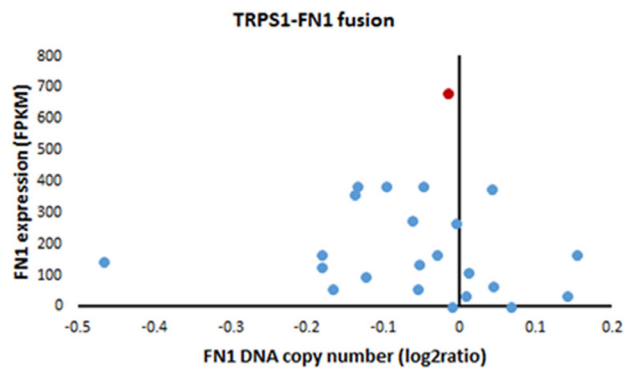
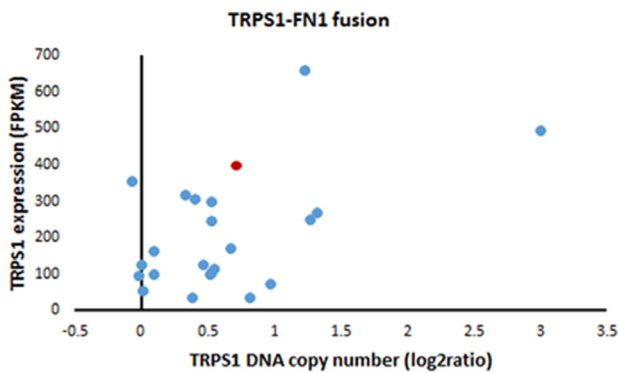
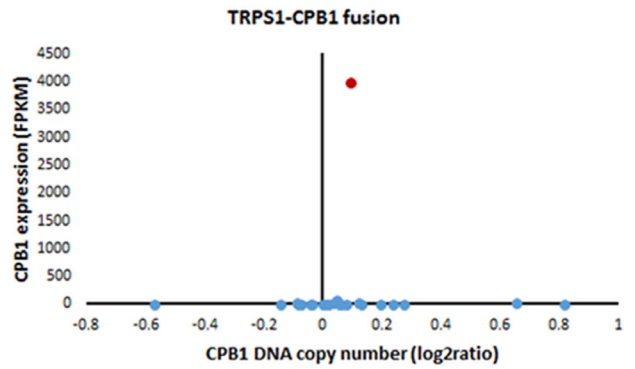
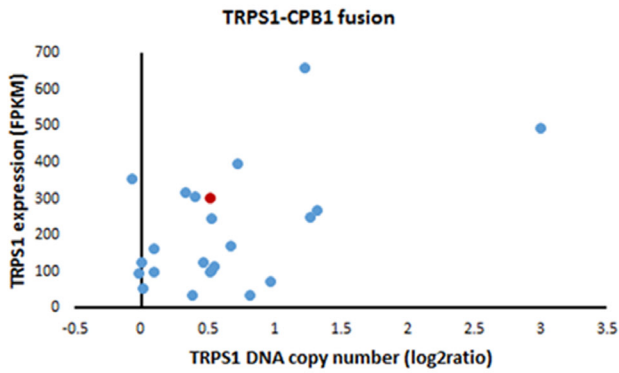
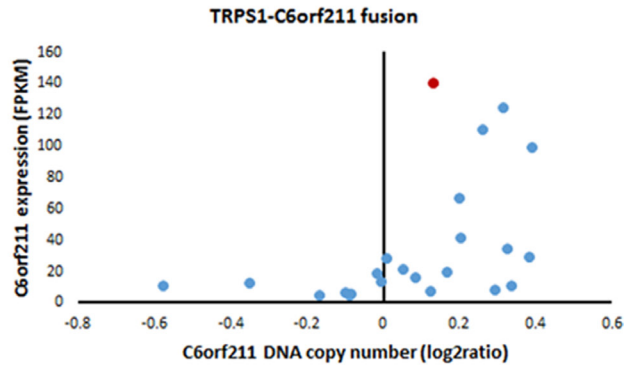
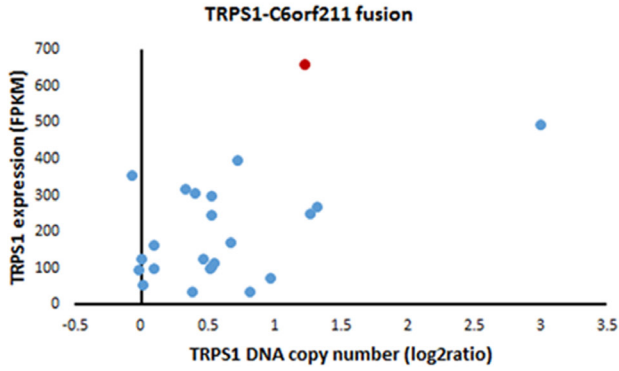
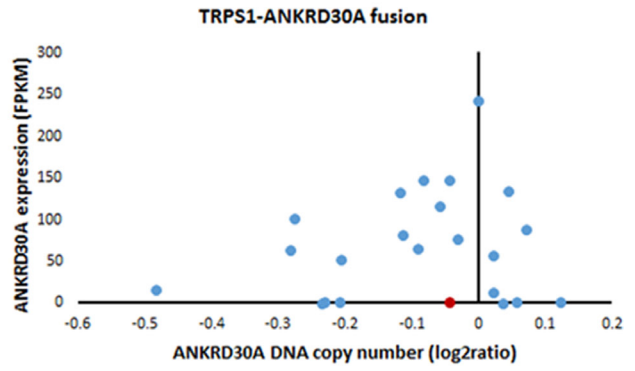
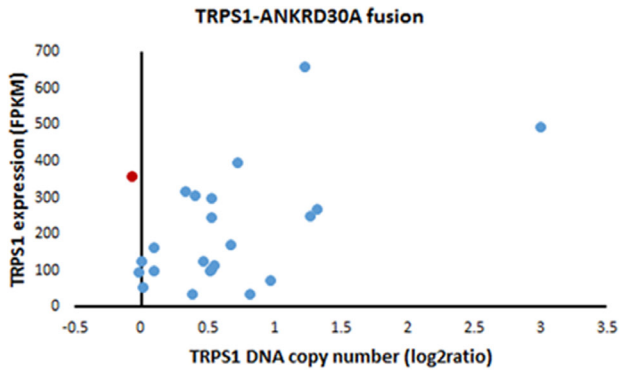


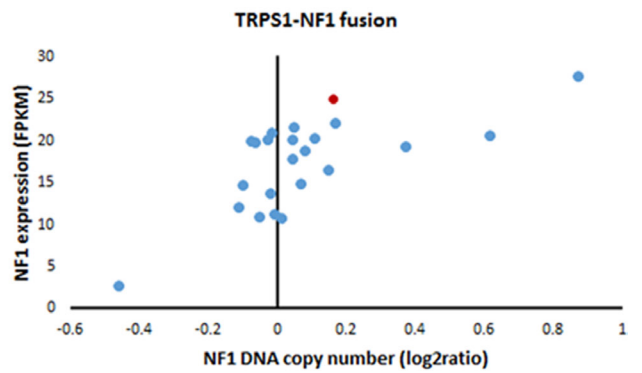
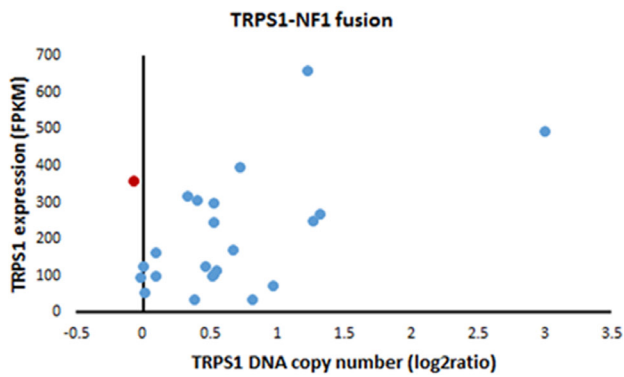
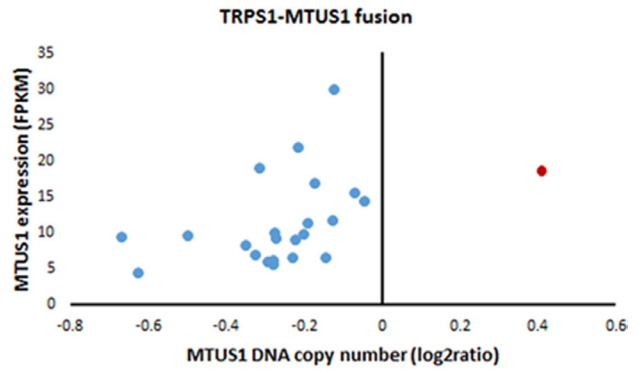
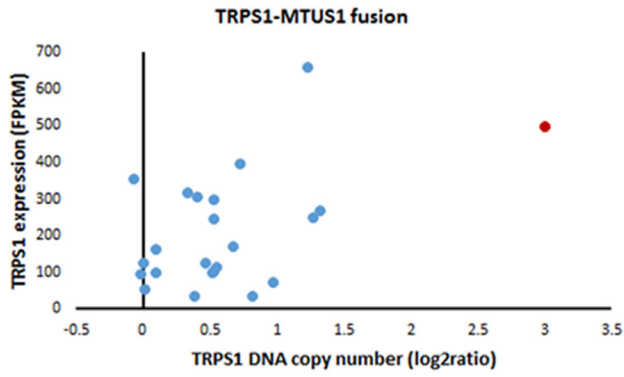
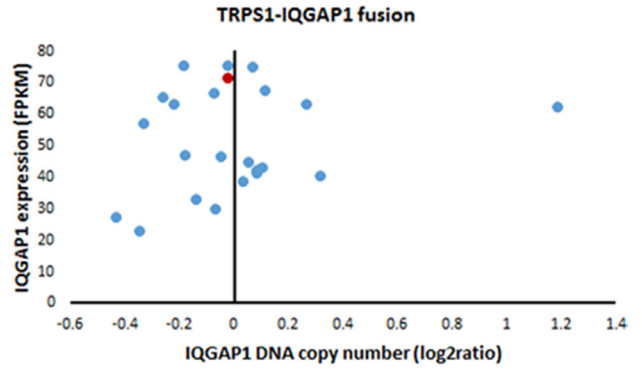
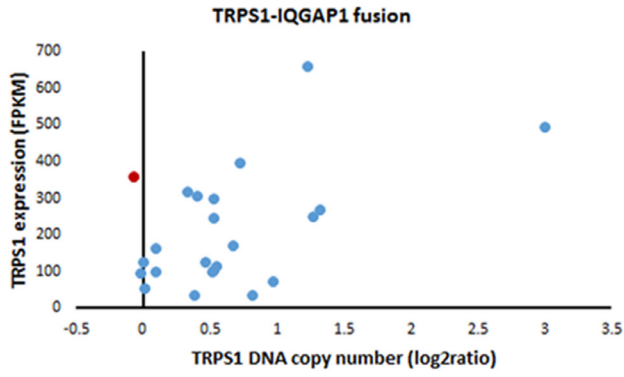
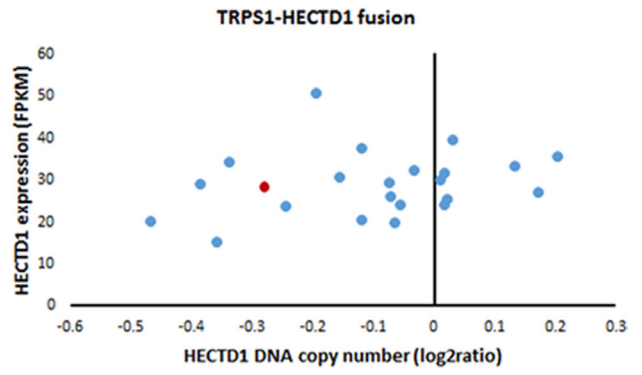
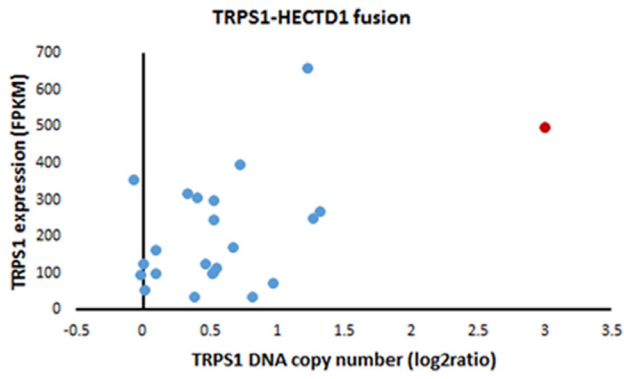


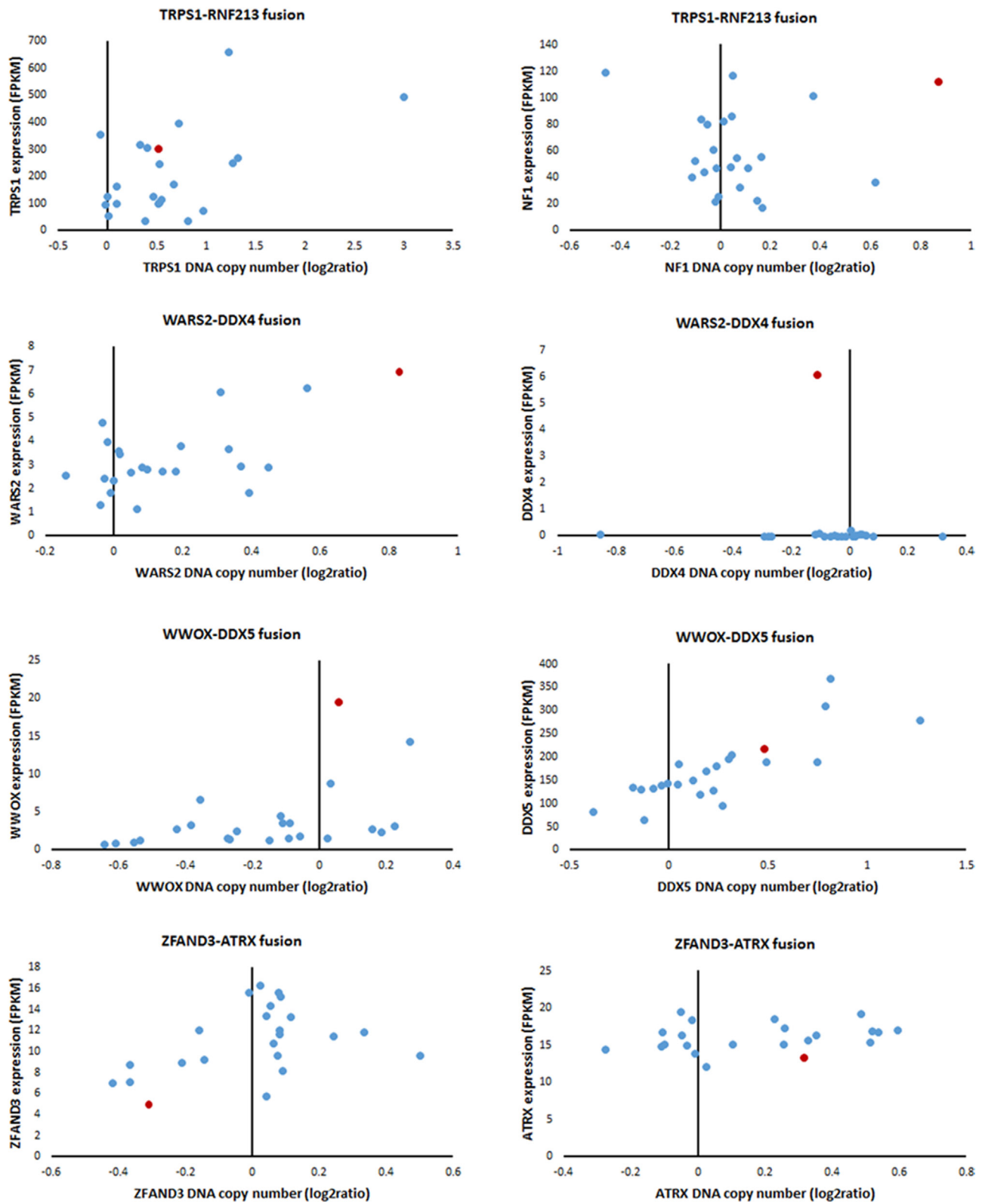




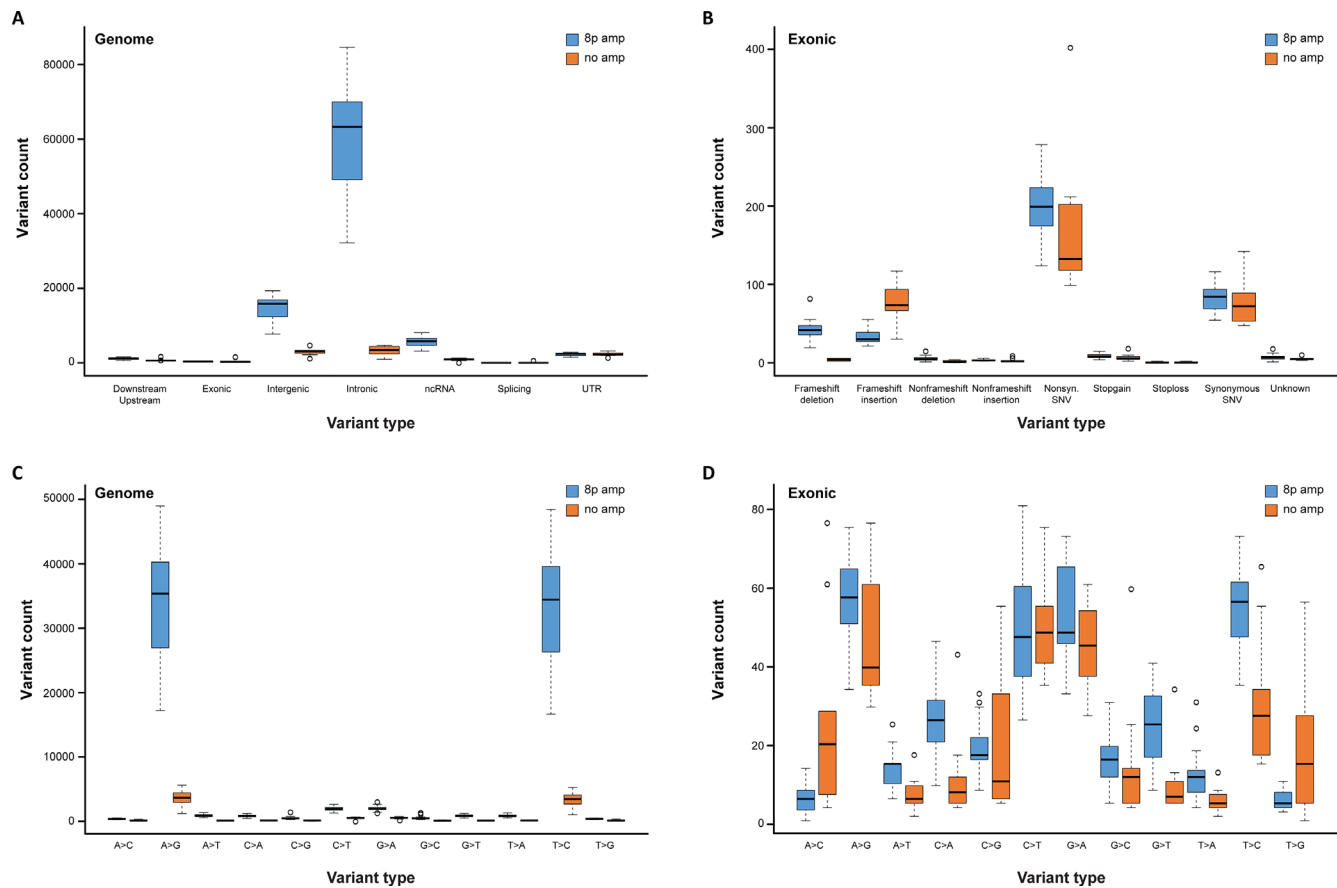








Supplementary Figure 2: Gene expression patterns for gene fusion partners are frequently unrelated to DNA amplification. Scatterplots illustrating gene expression levels (FPKM, y-axis) and DNA copy number (log₂ratio, x-axis) for the 3'- and 5'-gene fusion partners. Red and blue dots depict samples with and without the gene fusion, respectively. DNA amplification is defined as log₂ratio ≥ 0.5.



Supplementary Figure 3: Mutational load is independent of 8p11-p12 amplification status in breast carcinomas. Box plots illustrating (A–B) the number of genetic variants (y-axis) in genomic and exonic regions (x-axis) for 8p11-p12 amplification (denoted *8p amp*) and the TCGA breast carcinoma samples with neutral 8p11-p12 copy number (denoted *no amp*); and (C–D) the number of base-pair substitutions in genomic and exonic regions (y-axis) and the nucleotide change (x-axis).

Supplementary Table 1: Chromothripsis-like events identified in breast carcinomas

Sample	CTLP region	Size (Mb)	Cytoband location	CNA status change times	Likelihood ratio (log10)	Cancer genes
T3010	chr17:30000001-70000000	40.0	17q12-q25.1	29	22	<i>COL1A1, HLF, CLTC, CD79B, DDX5, PRKARIA</i>
T4296	chr11:40000001-128827254	88.8	11p12-q24.3	36	13	<i>CCND1, PICALM, BIRC3, ATM</i>
T4672	chr8:30000001-144142980	114.1	8p12-q24.3	49	12	<i>FGFR1, WHSC1L1, HOOK3, EXT1, MYC, NDRG1</i>
T5578	chr17:25000001-71944323	46.9	17q11.2-q25.1	20	18	<i>COL1A1, HLF, MSI2, CLTC, CD79B, DDX5</i>
T6061	chr8:45000001-145338915	100.3	8p11.1-q24.3	42	34	<i>NCOA2, HEY1, MYC</i>
T7008	chr6:95000001-144554710	49.6	6q16.1-q24.2	28	11	<i>ECT2L, TNFAIP3</i>
T7008	chr17:38774742-78774742	40.0	17q21.31-q25.3	22	8	<i>HLF, CLTC, BRIP1, CD79B, PRKARIA</i>
T7253	chr8:25000001-65000000	40.0	8p21.2-q12.3	21	13	<i>FGFR1, WHSC1L1, WRN</i>
T7253	chr11:50000001-90000000	40.0	11p11.12-q14.3	21	13	<i>CCND1, NUMA1, PICALM</i>
T7396	chr17:15000001-77435964	62.4	17p12-q25.3	41	15	<i>HLF, CLTC, BRIP1, CD79B, DDX5, PRKARIA, CANT1</i>
T7396	chr20:30000001-60000000	30.0	20q11.21-q13.33	21	10	<i>TOP1, GNAS</i>
T7670	chr6:5000001-119142980	114.1	6p25.1-q22.31	41	9	<i>DEK, HIST1H41, POU5F1, FANCE, PRDM1</i>
T7670	chr17:10000001-72435964	62.4	17p13.1-q25.2	28	8	<i>CDK12, ERBB2, LASP1, MLLT6</i>
T7678	chr11:30000001-93811651	63.8	11p14.1-q21	31	25	<i>CCND1, NUMA1, CREB3L1, DDB2, PICALM</i>
T7682	chr1:46017107-245522847	199.5	1p34.1-q44	41	9	<i>BCL9, ARNT, MUC1, NTRK1, PRCC, SDHC, MDM4, ELK4, SLC45A3, H3F3A, FH, FUBP1, FAM46C</i>
T7682	chr11:10000001-124142980	114.1	11p15.4-q24.2	40	17	<i>CCND1, NUMA1, PICALM, MAML2, ATM, BIRC3, DDX10, POU2AF1, SDHD, ARHGEF12, CBL, DDX6</i>
T7807	chr6:60000001-136117153	76.1	6p11.1-q23.3	40	14	
T8009	chr8:85000001-131944323	46.9	8q21.2-q24.22	30	12	<i>COX6C, MYC</i>
T8009	chr11:55677642-134452384	78.8	11q11-q25	33	9	<i>CCND1, NUMA1, PICALM, MAML2, ATM, BIRC3, DDX10, POU2AF1, SDHD, ARHGEF12, CBL, DDX6, FLII</i>
T8038	chr11:45000001-133827254	88.8	11p11.2-q25	20	20	<i>CCND1</i>
T8041	chr17:15000001-77435964	62.4	17p12-q25.3	38	28	<i>SUZ12, CDK12, ERBB2, HLF, MSI2, CLTC, BRIP1, PRKARIA, BRCA1, ETV4, RARA, CANT1</i>
T8277	chr1:1-243018229	243.0	1p36.33-q44	48	36	<i>MUTYH, JUN, JAK1, FUBP1, NOTCH2, PDE4DIP, BCL9, ARNT, MUC1, NTRK1, PRCC, SDHC, TPR, MDM4, ELK4, SLC45A3</i>
T8359	chr10:40000001-102435964	62.4	10p11.1-q24.31	22	22	<i>CCDC6</i>
T8376	chr11:20000001-126368585	106.4	11p15.1-q24.2	33	19	<i>CCND1, PAFAH1B2, PCSK7, PICALM, BIRC3, MAML2, ATM, DDX10, POU2AF1, SDHD, ARHGEF12, CBL, DDX6</i>
T8456	chr11:30000001-130338915	100.3	11p14.1-q25	30	16	<i>CCND1, EXT2, PICALM, MAML2, ATM, DDX10, POU2AF1, SDHD</i>
T8491	chr17:15000001-77435964	62.4	17p12-q25.3	27	29	<i>CDK12, ERBB2, LASP1, MLLT6, ETV4, MSI2, CLTC, BRIP1, CD89B, PRKARIA</i>
T8804	chr6:1-170975699	171.0	6p25.3-q27	49	10	
T8828	chr6:75000001-163827254	88.8	6q13-q26	41	9	<i>PRDM1, GOPC, ROS1, ECT2L, MYB, TNFAIP3, EZR</i>
T8842	chr1:139154262-245522847	106.4	1q12-q44	20	19	<i>MDM4, ELK4, SLC45A3, FH</i>

T8860	chr11:2002573-134452384	132.5	11p15.5-q25	36	10	CCND1, NUMA1, PICALM, MAML2, ATM, BIRC3, DDX10, POU2AF1, SDHD, PAFAH1B2, PCSK7, ARHGEF12, CBL, DDX6, FLII
T8931	chr4:125000001-174554710	49.6	4q28.1-34.1	29	18	FBXW7
T8931	chr11:15000001-61944323	46.9	11p15.2-q12.3	21	10	FANCF
T8977	chr6:85000001-148811651	63.8	6q14.3-q24.3	36	26	PRDM1
T9042	chr11:30000001-93811651	63.8	11p14.1-q21	22	21	CCND1, PICALM
T9086	chr7:1-100338915	100.3	7p22.3-q22.1	34	31	CARD11, PMS2, ETV1, HNRNPA2B1, HOXA11, HOXA13, HOXA9, AKAP9, CDK6
T9494	chr17:38774742-78774742	40.0	17q21.31-q25.3	22	8	MSI2, CLTC, BRIP1, CD79B, DDX5, PRKARIA, ASPSCR1
T9612	chr11:25000001-125338915	100.3	11p14.3-q24.2	20	9	CCND1, PAFAH1B2, PCSK7
T9632	chr1:145000001-245338915	100.3	1q21.1-q44	34	10	ARNT, TPM3, PRCC, SDHC, PBX1, ABL2, TPR, ELK4, MDM4, SLC45A3, H3F3A, FH
T9769	chr11:65000001-95000000	30.0	11q13.1-q21	20	12	CCND1
T9806	chr11:15000001-91117153	76.1	11p15.2-q14.3	21	21	EXT2, PICALM
T10400	chr11:10000001-124142980	114.1	11p15.4-q24.2	44	14	CCND1, PAFAH1B2, PCSK7, WTI, NUMA1, PICALM, MAML2, BIRC3, ATM, DDX10, POU2AF1, SDHD, DDX6, CBL, ARHGEF12
T10457	chr11:25000001-131368585	106.4	11p14.3-q25	21	22	CCND1, NUMA1
T10737	chr12:20000001-82435964	62.4	12p12.2-q21.31	21	20	MDM2
T10823	chr8:7845558-146274826	138.4	8p23.1-q24.3	73	14	PCMI, HOOK3, TCEA1, CHCHD7, PLAG1, NCOA2, EXT1, MYC, WRN, WHSC1L1, NDRG1
T10823	chr17:15000001-77435964	62.4	17p12-q25.3	46	13	MSI2, CLTC, BRIP1, CD79B, DDX5, PRKARIA, CANT1, NF1, RAF15, CDK12, ERBB2, RARA
T10900	chr19:1375687-63811651	62.4	19p13.3-q13.43	40	8	MLL1, SH3GL1, DNM2, SMARCA4, BRD4, TPM4, JAK3, ELL, CEBPA, AKT2, BCL3, CBLC, ERCC2, KLK2, TFPT
T10904	chr11:35000001-97435964	62.4	11p13-q22.1	31	35	MEN1, CCND1, PICALM
T11239	chr2:1-243018229	243.0	2p25.3-q37.3	95	28	ACSL3
T11248	chr11:40000001-128827254	88.8	11p12-q24.3	25	14	CCND1, NUMA1, PICALM, ATM, BIRC3, DDX10, MAML2, POU2AF1, SDHD, ARHGEF12, CBL, DDX6, FLII
T11292	chr1:105000001-243429268	138.4	1p21.1-q44	39	8	FAM46C, NOTCH2, TPE4DIP, BCL9, ARNT, NTRK1, PRCC, SDHC, PBX1, ABL2, TPR, MDM4, ELK4, SLC45A3, H3F3A, FH
T11314	chr8:60000001-136117153	76.1	8q12.1-q24.22	37	9	EXT1, MYC
T11315	chr8:75000001-137435964	62.4	8q21.11-q24.23	28	9	HEY1, EXT1, MYC, NDRG1
T11378	chr17:2657589-78774742	76.1	17p13.3-q25.3	33	11	SUZ12, CDK12, ERBB2, COL1A1, HLF, MSI2, BRIP1, CLTC, CD79B, DDX5, PRKARIA, CANT1
T11633	chr11:55000001-85000000	30.0	11q11-q14.1	22	11	CCND1
T11659	chr8:30000001-144142980	114.1	8p12-q24.3	44	8	FGFR1, WHSC1L1, HOOK3, TCEA1, CHCHD7, PLAG1, NCOA2, HEY1, COX6C, EXT1, MYC, NDRG1, WRN
T11742	chr8:85000001-131944323	46.9	8q21.2-q24.22	27	28	MYC
T11742	chr11:2002573-134452384	132.5	11p15.5-q25	39	22	LMO2, FLII
T11881	chr11:20000001-126368585	106.4	11p15.1-q24.2	29	19	CCND1, PAFAH1B2, PCSK7

Supplementary Table 2: Recurrent regions of amplification within the 8p11-p12 amplicon

Current study (*n* = 47)

Amplicon Peak	Region	Size (kb)	Cytoband Location	Genes mapped to region	Number of genes	Frequency %	% of CNV overlap	<i>P</i> -value
P1	chr8:34334337-34443082	108.7	8p12		0	30	0	0
P2	chr8:37351420-37571832	220.4	8p12		0	72	16	0
P3	chr8:37676135-37899290	223.2	8p12	<i>ERLIN2, LOC728024, PROSC, GPR124, BRF2, RAB11FIP1</i>	6	72	2	0
P4	chr8:38260728-38328670	67.9	8p12	<i>WHSC1L1</i>	1	74	0	0
P5	chr8:38498119-38729433	231.3	8p12 - p11.23	<i>C8orf86, RNF5P1, TACC1</i>	3	72	64	0
P6	chr8:40184216-40278522	94.3	8p11.21		0	53	5	0
P7	chr8:40780622-40960961	180.3	8p11.21	<i>ZMAT4</i>	1	49	0	0
P8	chr8:41752765-41793948	41.2	8p11.21	<i>ANK1</i>	1	47	0	0
P9	chr8:42099873-42477259	377.4	8p11.21	<i>AP3M2, PLAT, IK8K8, POLB, DKK4, VDAC3, SLC20A2</i>	7	43	8	0

Supplementary Table 3: Bacterial artificial chromosomes (BACs) used in the FISH experiments

BAC clone	Gene(s) name	Start (bp)	End (bp)	Size (bp)	Band
RP11-380B11	<i>FKSG2;KCNU1</i>	36836720	37003025	166306	8p12
RP11-745K6	<i>KCNU1</i>	36911752	37077533	165782	8p12
RP11-371M15	<i>NULL</i>	36980612	37176230	195619	8p12
RP11-95I18	<i>NULL</i>	37153188	37307820	154633	8p12
RP11-527N22	<i>NULL</i>	37193796	37395020	201225	8p12
RP11-621B1	<i>NULL</i>	37365132	37518160	153029	8p12
RP13-631H19	<i>NULL</i>	37399410	37535863	136454	8p12
RP11-332C8	<i>LOC157860</i>	37418780	37607801	189022	8p12
RP11-319J12	<i>LOC157860;FLJ14299</i>	37481145	37696334	215190	8p12
RP13-509O17	<i>LOC157860</i>	37517260	37655936	138677	8p12
RP13-620O23	<i>LOC157860;FLJ14299</i>	37560498	37710298	149801	8p12
CTD-2015B18	<i>SPFH2;FLJ14299</i>	37626978	37730745	103768	8p12
RP13-580P15	<i>SPFH2;PROSC;GPR124</i>	37718514	37794138	75625	8p12
RP11-168H8	<i>BRF2;SPFH2;PROSC;GPR124;RAB11FIP1</i>	37720525	37874916	154392	8p12
CTD-2225N15	<i>MGC33309;BRF2;GPR124;RAB11FIP1</i>	37790755	37923664	132910	8p12
RP11-156L3	<i>MGC33309;EIF4EBP1;ADRB3;RAB11FIP1</i>	37852536	38058325	205790	8p12
RP11-594D10	<i>EIF4EBP1;ASH2L;ADRB3</i>	37934266	38102965	168700	8p12
RP11-389E22	<i>EIF4EBP1;STAR;ASH2L;BAG4;LSM1</i>	38035380	38189049	153670	8p12
RP11-601G22	<i>DDHD2;WHSC1L1;BAG4;LSM1;HTPAP</i>	38128912	38295034	166123	8p12
RP11-636F12	<i>DDHD2;WHSC1L1;BAG4;HTPAP</i>	38168966	38329500	160535	8p12
CTD-2385A20	<i>DDHD2;WHSC1L1;HTPAP</i>	38209555	38298495	88941	8p12
RP11-350N15	<i>LETM2;WHSC1L1;FLJ43582;FGFR1</i>	38289075	38488995	199921	8p12
RP11-148D21	<i>LETM2;WHSC1L1;FLJ43582;FGFR1</i>	38307871	38507244	199374	8p12 - 8p11.23
RP11-359P11	<i>FLJ43582;FGFR1</i>	38427815	38603011	175197	8p12 - 8p11.23
RP11-675F6	<i>FLJ43582</i>	38463692	38632874	169183	8p12 - 8p11.23
RP11-734M8	<i>NULL</i>	38529206	38697350	168145	8p11.23
RP11-495O10	<i>NULL</i>	38549335	38761516	212182	8p11.23
RP11-794F5	<i>TACCC1</i>	38593558	38776969	183412	8p11.23
RP11-690P9	<i>TACCC1</i>	38640388	38776969	136582	8p11.23
RP11-732D22	<i>TACCC1;PLEKHA2</i>	38725911	38893939	168029	8p11.23
CTD-2544N14	<i>ADAM9;HTRA4;PLEKHA2;BLP1</i>	38871774	39070960	199187	8p11.23
RP11-742F8	<i>ADAM9;HTRA4;PLEKHA2;BLP1;ADAM32</i>	38922348	39109975	187628	8p11.23
RP11-391D11	<i>ADAM9;HTRA4;BLP1;ADAM32</i>	38954288	39152222	197935	8p11.23
RP11-742H5	<i>ADAM9;ADAM32</i>	39053922	39235325	181404	8p11.23
CTD-2172C13	<i>ADAM5;ADAM32</i>	39186741	39349390	162650	8p11.23
RP11-583G7	<i>ADAM5;ADAM32</i>	39221703	39398472	176770	8p11.23
RP11-33N21	<i>FLJ30656;ADAM3A</i>	39420279	39553850	133572	8p11.23 - 8p11.22
RP11-1152G18	<i>ADAM18</i>	39510564	39647698	137135	8p11.22
RP11-769N8	<i>ADAM18</i>	39541437	39717022	175586	8p11.22
RP11-676B15	<i>NULL</i>	39569848	39628893	59046	8p11.22
RP11-648J12	<i>ADAM2;ADAM18</i>	39587562	39768413	180852	8p11.22
RP11-143C18	<i>ADAM2;ADAM18</i>	39644486	39797061	152576	8p11.22
RP11-44K6	<i>LOC169355;INDO</i>	39836599	39985605	149007	8p11.22 - 8p11.21
RP11-157N22	<i>NULL</i>	39810942	40004703	193762	8p11.22 - 8p11.21
RP11-719N14	<i>C8orf4;LOC169355</i>	39973683	40163169	189487	8p11.21
RP11-508J20	<i>C8orf4</i>	40056046	40205264	149219	8p11.21

CTD-2170K14	NULL	40146465	40212249	65785	8p11.21
RP11-104D16	NULL	40154516	40344796	190281	8p11.21
RP11-812C6	NULL	40275993	40464496	188504	8p11.21
RP11-108H10	FLJ13842	40395268	40567036	171769	8p11.21
RP11-51K12	FLJ13842	40501065	40649254	148190	8p11.21
RP11-592B24	NULL	40583114	40764962	181849	8p11.21
RP11-749P1	NULL	40620821	40796283	175463	8p11.21
RP11-284J3	NULL	40666764	40830435	163672	8p11.21
RP11-465K16	FLJ13842	40778859	40972561	193703	8p11.21
RP11-167P2	FLJ13842	40787605	40949362	161758	8p11.21
RP11-681J6	NULL	40916540	41110713	194174	8p11.21
CTD-2035O24	SFRP1	41110715	41238819	128105	8p11.21
RP11-642F7	MALAT1	65266462	65429053	162591	11q13.1
RP11-1104L6	MALAT1	65200229	65378762	178533	11q13.1
RP11-472D15	MALAT1	65264768	65455761	190993	11q13.1
CTD-2240J20	AHNAK	62191334	62336912	145578	11q12.3
RP11-466M24	TRPS1	116341665	116522802	181137	8q23.3
RP11-762A3	TRPS1	116485587	116668671	183084	8q23.3
RP11-794B13	FOXP1	71180816	71356061	175245	3p13
RP11-905F6	FOXP1	71256411	71475547	219136	3p13
RP11-109G20	FOXP1	71027347	71179919	152572	3p13
RP11-1127D11	FOXP1	71429509	71572956	143447	3p13
RP11-69L8	FOXP1	71572153	71733818	161665	3p13
RP11-113M16	RPPHI	20794573	20979309	184736	14q11.2
RP11-147O12	LRBA	151439748	151578761	139013	4q31.3
RP11-156N13	LRBA	151158076	151334332	176256	4q31.3
RP11-833H23	LRBA	151273194	151442964	169770	4q31.3
RP11-265A4	LRBA	151499319	151674156	174837	4q31.3
RP11-28E24	LRBA	151627684	151771649	143965	4q31.3
RP11-465P24	LRBA	151736644	151899786	163142	4q31.3
RP11-125M5	LRBA	151832217	152014630	182413	4q31.3
RP11-591L23	SLC39A6	33683777	33866984	183207	18q12.2
RP11-592J1	ANKRD30A	37294438	37461431	166993	10p11.21
RP11-264O24	ANKRD30A	37294438	37461431	166993	10p11.21
RP11-81D7	DDX5	62460761	62636156	175395	17q23.3 - 17q24.1
RP11-661B17	CLTC	57651039	57855337	204298	17q23.1
RP11-655A7	COL3A1	189708272	189880147	171875	2q32.2
RP11-639O1	ETV6	11737815	11916241	178426	12p13.2
RP11-418C2	ETV6	11916329	12086277	169948	12p13.2
RP11-91O9	WWOX	78053568	78205164	151596	16q23.1
RP11-72G1	WWOX	78147069	78342268	195199	16q23.1
RP11-345K17	WWOX	78275875	78520559	244684	16q23.1
RP11-264L1	WWOX	78487649	78638009	150360	16q23.1
RP11-994F22	WWOX	78600645	78793477	192832	16q23.1
RP11-1062G14	WWOX	78837285	79023146	185861	16q23.1
RP11-298E11	WWOX	79018177	79221790	203613	16q23.1 - 16q23.2
RP11-101D10	WWOX	79194633	79393394	198761	16q23.1 - 16q23.2

Supplementary Table 4: Putative driver fusion events in 8p11-p12 amplified breast carcinomas

Sample	Fusion	Fusion breakpoints	5' gene in CDS?	5' segment type	3' gene in CDS?	3' segment type	Adjusted <i>p</i> -value	Driver Bayesian probability
10068	<i>ABL2-IGFBP5</i>	chr1:179073904>chr2:217539667	No	Intron	No	Intron	4.02E-04	0.999990417
10400	<i>ADAR-PII5</i>	chr1:154560641>chr8:75765846	Yes	Exon	No	Intron	0.001203145	0.999978125
8931	<i>ASB7-MEF2A</i>	chr15:101152632>chr15:100138635	Yes	Exon	No	Intron	0.003786331	0.999708744
8931	<i>ASB7-MEF2A</i>	chr15:101152632>chr15:100173183	Yes	Exon	No	Intron	0.003786331	0.999708744
7325	<i>ATAD2-INSR</i>	chr8:124361525>chr19:7152938	Yes	Exon	Yes	Exon	0.018215303	0.998344063
10408	<i>B2M-ETV6</i>	chr15:45010150>chr12:11988371	No	Intron	Yes	Intron	2.90E-05	0.999995858
11315	<i>BCL2-IGFBP5</i>	chr18:60983420>chr2:217540036	Yes	Intron	No	Intron	0.040741279	0.978874892
11315	<i>BCL2-IGFBP5</i>	chr18:60983421>chr2:217540037	Yes	Intron	No	Intron	0.040741279	0.978874892
11315	<i>BCL2-RHOBTB3</i>	chr18:60981376>chr5:95130935	Yes	Intron	No	Intron	0.040741279	0.978874892
10068	<i>CLTC-COL3A1</i>	chr17:57760118>chr2:189877010	Yes	Exon	No	Intron	0.215073028	0.964154495
10569	<i>COL12A1-WWP1</i>	chr6:75822948>chr8:87423956	Yes	Exon	Yes	Exon	0.429016568	0.877423838
10569	<i>COL12A1-WWP1</i>	chr6:75822948>chr8:87423957	Yes	Exon	Yes	Exon	0.429016568	0.877423838
10068	<i>COL1A2-MACF1</i>	chr7:94057752>chr1:39856521	Yes	Exon	Yes	Intron	0.36978708	0.929564366
10068	<i>COL1A2-TRPS1</i>	chr7:94059813>chr8:116421597	No	Intron	No	Intron	0.198345903	0.981109914
10569	<i>COL1A2-TRPS1</i>	chr7:94059788>chr8:116662316	No	Intron	No	Intron	7.78E-04	0.999972202
10400	<i>CPB1-TRPS1</i>	chr3:148558738>chr8:116426569	Yes	Exon	Yes	Exon	0.124155579	0.986455755
11659	<i>DDX17-TRPS1</i>	chr22:38888654>chr8:116681014	Yes	Intron	No	Intron	5.85E-04	0.999883024
11659	<i>DDX17-TRPS1</i>	chr22:38888655>chr8:116681015	Yes	Intron	No	Intron	5.85E-04	0.999883024
11315	<i>DDX5-WWOX</i>	chr17:62496139>chr16:78589835	Yes	Exon	Yes	Intron	0.012819635	0.996676391
11315	<i>DDX5-WWOX</i>	chr17:62496141>chr16:78589833	Yes	Exon	Yes	Intron	0.012819635	0.996676391
10068	<i>DDX6-COL1A2</i>	chr11:118619225>chr7:94060368	No	Intron	No	Intron	0.199591359	0.976239124
10068	<i>DDX6-COL1A2</i>	chr11:118619227>chr7:94060366	No	Intron	No	Intron	0.199591359	0.976239124
11315	<i>DEPTOR-ZNF704</i>	chr8:120977650>chr8:81733850	Yes	Exon	No	Intron	0.01438201	0.995738664
11378	<i>ERBB2-AHNAK</i>	chr17:37882045>chr11:62288082	Yes	Exon	Yes	Exon	0.1799945	0.955001375
11378	<i>ERBB2-AHNAK</i>	chr17:37882044>chr11:62288083	Yes	Exon	Yes	Exon	0.1799945	0.955001375
11378	<i>ERBB2-CTNNA1</i>	chr17:37868282>chr5:138260947	Yes	Exon	Yes	Exon	0.1799945	0.955001375
11378	<i>ERBB2-LUC7L3</i>	chr17:37882358>chr17:48829549	Yes	Intron	No	Intron	0.164758186	0.991762091
8931	<i>ESR1-C6orf211</i>	chr6:152201906>chr6:151775683	Yes	Exon	Yes	Exon	0.002959268	0.999317092
8931	<i>ESR1-C6orf211</i>	chr6:152201910>chr6:151775683	Yes	Intron	Yes	Exon	0.002959268	0.999317092
11315	<i>ESR1-IGFBP5</i>	chr6:152419999>chr2:217537385	Yes	Exon	No	Intron	0.003023309	0.999888026
11315	<i>ESR1-IGFBP5</i>	chr6:152201886>chr2:217539806	Yes	Exon	No	Intron	0.111414206	0.929850315
10400	<i>FGFR1-CPB1</i>	chr8:38270916>chr3:148562497	No	Intron	Yes	Exon	0.002699831	0.999901824
10400	<i>FGFR1-PII5</i>	chr8:38277867>chr8:75757445	Yes	Intron	Yes	Exon	0.021172465	0.998845138
10569	<i>FNI-TRPS1</i>	chr2:216243914>chr8:116426876	Yes	Exon	Yes	Exon	9.65E-04	0.999931045
10569	<i>FNI-TRPS1</i>	chr2:216274787>chr8:116538622	Yes	Exon	Yes	Intron	0.019775538	0.995056115
10569	<i>FNI-TRPS1</i>	chr2:216274788>chr8:116538623	Yes	Exon	Yes	Intron	0.019775538	0.995056115
10068	<i>IGFBP5-ABL2</i>	chr2:217537840>chr1:179076778	No	Intron	No	Intron	0.089924551	0.995717879
11315	<i>IGFBP5-CA12</i>	chr2:217539466>chr15:63616867	No	Intron	No	Intron	0.011561728	0.995717879
11315	<i>IGFBP5-CA12</i>	chr2:217538433>chr15:63616872	No	Intron	No	Intron	0.011561728	0.995717879
11315	<i>IGFBP5-ESR1</i>	chr2:217537729>chr6:152421653	No	Intron	No	Intron	0.002774398	0.999486223
11315	<i>IGFBP5-MACF1</i>	chr2:217542904>chr1:39753105	Yes	Exon	Yes	Exon	0.017717691	0.992781681
11315	<i>IGFBP5-TMEM64</i>	chr2:217541084>chr8:91636460	No	Intron	No	Intron	0.002774398	0.999486223
8629	<i>LYRM4-SFMBT2</i>	chr6:5216851>chr10:7327916	Yes	Exon	Yes	Exon	0.467271142	0.875394362
10408	<i>MACF1-YWHAZ</i>	chr1:39952004>chr8:101932726	No	Intron	No	Intron	0.241265449	0.931067015
11372	<i>MAST2-PRKCA</i>	chr1:46425149>chr17:64683229	Yes	Exon	Yes	Exon	0.139249908	0.988395841
11378	<i>MAST2-PRKCA</i>	chr1:46425149>chr17:64683229	Yes	Exon	Yes	Exon	0.11604159	0.988395841
11659	<i>MGP-TRPS1</i>	chr12:15038695>chr8:116426080	Yes	Exon	No	Intron	0.023167852	0.988416074
11659	<i>MGP-TRPS1</i>	chr12:15035072>chr8:116616544	Yes	Exon	Yes	Exon	0.023167852	0.988416074
11315	<i>MMP16-ZNF34</i>	chr8:89053096>chr8:146003910	No	Intron	Yes	Exon	0.470695754	0.668769654
11315	<i>MMP16-ZNF34</i>	chr8:89058897>chr8:146003910	Yes	Exon	Yes	Exon	0.470695754	0.668769654
11315	<i>MMP16-ZNF34</i>	chr8:89053965>chr8:146003910	Yes	Exon	Yes	Exon	0.470695754	0.668769654
10823	<i>MTF1-SLCO1B1</i>	chr1:38304297>chr12:21325584	Yes	Exon	Yes	Exon	0.027132269	0.997193214
10823	<i>MTF1-SLCO1B1</i>	chr1:38304297>chr12:21329710	Yes	Exon	Yes	Exon	0.027132269	0.997193214

10823	<i>MTUS1-TRPS1</i>	chr8:17601113>chr8:116430680	Yes	Exon	Yes	Exon	0.00281909	0.99990279
10569	<i>NBN-COL3A1</i>	chr8:90971025>chr2:189839203	Yes	Exon	No	Intron	0.00283485	0.999696266
7253	<i>NCK1-CLSTN2</i>	chr3:136647069>chr3:139894793	Yes	Exon	Yes	Exon	0.00958784	0.99520608
10569	<i>NFKBIZ-FN1</i>	chr3:101574901>chr2:216260274	Yes	Intron	Yes	Intron	0.443035777	0.841772937
10823	<i>NUDCD1-RAD54B</i>	chr8:110283234>chr8:95479783	Yes	Exon	No	Intron	0.124243172	0.978578764
10400	<i>PI15-TRPS1</i>	chr8:75763042>chr8:116617015	No	Intron	Yes	Exon	0.034412409	0.997497279
10068	<i>PLXDC2-FN1</i>	chr10:20569819>chr2:216279615	No	Intron	Yes	Exon	0.170504595	0.9878211
11315	<i>PSPCI-TRPS1</i>	chr13:20304379>chr8:116430680	Yes	Exon	Yes	Exon	0.005592611	0.999585733
8629	<i>RAB2A-CHD7</i>	chr8:61504528>chr8:61653818	Yes	Exon	No	Intron	0.007969021	0.998937464
8629	<i>RAB2A-CHD7</i>	chr8:61484672>chr8:61693559	Yes	Exon	Yes	Exon	0.007969021	0.998937464
8931	<i>RIN2-SLC24A3</i>	chr20:19972943>chr20:19496132	Yes	Exon	Yes	Exon	0.227555444	0.912478675
8629	<i>RPAIN-RABEP1</i>	chr17:5331531>chr17:5250085	Yes	Exon	Yes	Exon	0.416198058	0.861267314
10415	<i>SKIL-PRRC2B</i>	chr3:170110915>chr9:134330495	No	Intron	Yes	Exon	0.434368897	0.945703888
11659	<i>SLC39A8-TRPS1</i>	chr4:103183528>chr8:116631981	No	Intron	Yes	Exon	0.001428648	0.999571406
11659	<i>SLC39A8-TRPS1</i>	chr4:103183527>chr8:116631980	No	Intron	Yes	Exon	0.001428648	0.999571406
10569	<i>SPARC-MGP</i>	chr5:151042777>chr12:15035003	No	Intron	No	Intron	0.004188382	0.999252075
11315	<i>TMEM64-ZNF704</i>	chr8:91637222>chr8:81672849	No	Intron	Yes	Intron	0.003857349	0.999571406
11315	<i>TRMT1L-RALGPS2</i>	chr1:185113038>chr1:178745817	Yes	Exon	No	Intron	0.017114966	0.992393349
8860	<i>TRPS1-ANKRD30A</i>	chr8:116425696>chr10:37430974	No	Intron	Yes	Exon	0.145727334	0.995776019
11659	<i>TRPS1-C6orf211</i>	chr8:116599677>chr6:151790689	Yes	Exon	No	Intron	0.141932844	0.886453724
10400	<i>TRPS1-CPB1</i>	chr8:116616434>chr3:148567056	Yes	Exon	Yes	Intron	0.093772173	0.991475257
10569	<i>TRPS1-FN1</i>	chr8:116595188>chr2:216256401	Yes	Intron	Yes	Exon	0.00344624	0.99950768
10823	<i>TRPS1-HECTD1</i>	chr8:116465658>chr14:31576001	Yes	Intron	Yes	Exon	0.470405999	0.886453724
8860	<i>TRPS1-IQGAP1</i>	chr8:116427260>chr15:91029819	Yes	Exon	Yes	Intron	0.472858604	0.97944093
10823	<i>TRPS1-MTUS1</i>	chr8:116617104>chr8:17651601	Yes	Exon	No	Intron	0.020401604	0.998592993
8860	<i>TRPS1-NF1</i>	chr8:116599672>chr17:29435023	Yes	Exon	Yes	Intron	0.020096678	0.999708744
10400	<i>TRPS1-RNF213</i>	chr8:116616836>chr17:78263532	Yes	Exon	Yes	Exon	0.161535548	0.97944093
11659	<i>WARS2-DDX4</i>	chr1:119683178>chr5:55041992	Yes	Exon	Yes	Exon	0.132521351	0.907235054
11315	<i>WWOX-DDX5</i>	chr16:78910763>chr17:62500878	Yes	Intron	Yes	Exon	0.023494565	0.988687802
8629	<i>ZFAND3-ATRX</i>	chr6:37897775>chrX:76972720	Yes	Exon	Yes	Exon	0.006428915	0.999571406

The adjusted p -value is the Bayesian probability of the fusion being a passenger event and the Bayesian driver probability is the probability of the fusion being a driver event. Fusion events with adjusted $P < 0.5$ were classified as “driver” fusions.