

S4 Table: Gene fusions from the fourth recurrence, detected with INTEGRATE

Fusion_Candidate	5_Prime	3_Prime	Reciprocal	Tier	Type
1	ARID1B	TTC28	N	1	Inter_Chromosomal
2	MAPK8IP2	RARS2	N	1	Inter_Chromosomal
3	CSNK1G1	TMEM123	N	1	Inter_Chromosomal
4	LARGE	ZNF609	N	1	Inter_Chromosomal
5	EIF3L	TCP1	N	1	Inter_Chromosomal
6	AUTS2	CLDN18	N	1	Inter_Chromosomal
7	PHF21A	BC038188	N	1	Inter_Chromosomal
8	PPP6R3	FAM120B	N	1	Inter_Chromosomal
9	TTLL1	C11orf65	N	1	Inter_Chromosomal
10	DNAJC25-GNG10	UGCG	N	1	Intra_Chromosomal
11	TSPAN9	KRBOX1	N	2	Inter_Chromosomal
12	FAM120B	RARRES3	N	2	Inter_Chromosomal
13	DKK3	SEC11A	N	2	Inter_Chromosomal
14	STARD9	FYN	N	2	Inter_Chromosomal
15	PHF21A	TSPAN18	N	2	Intra_Chromosomal
16	AKAP13	TM6SF1	N	2	Intra_Chromosomal
17	DSCAML1	APLP2	N	2	Intra_Chromosomal
18	TIA1	SSX7	N	3	Inter_Chromosomal
19	DIXDC1	PLEKHG1	N	3	Inter_Chromosomal
20	WDR73	PACS1	N	3	Inter_Chromosomal
21	TNRC6C	septin	N	3	Intra_Chromosomal
22	C10orf68	CCDC7	Y	3	Intra_Chromosomal
23	FH	PRRC2C	Y	3	Intra_Chromosomal
24	UEVLD	NARS2	Y	3	Intra_Chromosomal
25	PSPC1	ZMYM5	N	3	Intra_Chromosomal
26	SLC35A3	HIAT1	Y	3	Intra_Chromosomal
27	LOC389765	AK124523	Y	3	Intra_Chromosomal
28	AK125749	C16orf95	N	3	Intra_Chromosomal
29	SNX30	KIAA1958	N	3	Intra_Chromosomal
30	ZNF528	ZNF880	N	3	Intra_Chromosomal
31	LOC100506136	SHFM1	N	3	Intra_Chromosomal
32	HLA-A	HLA-B	N	3	Intra_Chromosomal
33	AY660577/AY660578	MID1	N	3	Intra_Chromosomal
34	ST8SIA5	PIAS2	N	3	Intra_Chromosomal
35	PCYT1A	TCTEX1D2	N	3	Intra_Chromosomal
36	SLC38A6	MNAT1	N	3	Intra_Chromosomal
37	SEC61A2	DHTKD1	N	3	Intra_Chromosomal
38	ERV3-1	ZNF117	N	3	Read_Through
39	EIF6	EDEM2	N	3	Read_Through

40 ARL6IP1	RPS15A	N	3 Read_Through
41 TTC23L	BRIX1	N	3 Read_Through

EN_RNA	SP_RNA	EN_DNA_T	SP_DNA_T	EN_DNA_N	SP_DNA_N
113	116	3	1	0	0
24	165	2	1	0	0
24	145	3	3	0	0
28	141	4	1	0	0
41	87	3	2	0	0
50	58	9	3	0	0
44	2	3	2	0	0
8	37	3	1	0	0
10	12	2	2	0	0
64	76	6	3	0	0
247	722	4	0	0	0
33	271	4	0	0	0
23	156	4	0	0	0
43	79	6	0	0	0
51	108	5	0	0	0
92	63	2	0	0	0
8	20	2	0	0	0
175	1297	0	0	0	0
5	154	0	0	0	0
12	113	0	0	0	0
177	413	0	0	0	0
80	371	0	0	0	0
100	276	0	0	0	0
34	103	0	0	0	0
72	3	0	0	0	0
26	20	0	0	0	0
19	22	0	0	0	0
2	36	0	0	0	0
16	21	0	0	0	0
12	25	0	0	0	0
26	7	0	0	0	0
18	1	0	0	0	0
9	5	0	0	0	0
3	10	0	0	0	0
1	11	0	0	0	0
6	6	0	0	0	0
1	5	0	0	0	0
783	1151	0	0	0	0
96	67	0	0	0	0

35	67	0	0	0	0
32	3	0	0	0	0

Splicings

ARID1B>>TTC28(Inter_Chromosomal Canonical 116);
MAPK8IP2>>RARS2(Inter_Chromosomal Canonical 165);
CSNK1G1>>TMEM123(Inter_Chromosomal Canonical 145);
LARGE>>ZNF609(Inter_Chromosomal Canonical 141);
EIF3L>>TCP1(Inter_Chromosomal Canonical 2);EIF3L>>TCP1(Inter_Chromosomal Canonical 85);
AUTS2>>CLDN18(Inter_Chromosomal Canonical 58);
PHF21A>>BC038188(Inter_Chromosomal Canonical 2);
PPP6R3>>FAM120B(Inter_Chromosomal Canonical 37);
TTLL1>>C11orf65(Inter_Chromosomal Canonical 12);
DNAJC25-GNG10>>UGCG(Intra_Chromosomal Canonical 76);
TSPAN9>>KRBOX1(Inter_Chromosomal Canonical 14);TSPAN9>>KRBOX1(Inter_Chromosomal Canonical 14);
FAM120B>>RARRES3(Inter_Chromosomal Canonical 266);FAM120B>>RARRES3(Inter_Chromosomal Canonical 266);
DKK3>>SEC11A(Inter_Chromosomal Canonical 156);
STARD9>>FYN(Inter_Chromosomal Canonical 79);
PHF21A>>TSPAN18(Intra_Chromosomal 97);PHF21A>>TSPAN18(Intra_Chromosomal Canonical 11);
AKAP13>>TM6SF1(Intra_Chromosomal Canonical 63);
DSCAML1>>APLP2(Intra_Chromosomal Canonical 20);
TIA1>>SSX7(Inter_Chromosomal Canonical 1297);
DIXDC1>>PLEKHG1(Inter_Chromosomal Canonical 154);
WDR73>>PACS1(Inter_Chromosomal Canonical 113);
TNRC6C>>septin(Intra_Chromosomal Canonical 413);
C10orf68>>CCDC7(Intra_Chromosomal Canonical 1);C10orf68>>CCDC7(Intra_Chromosomal Canonical 1);
FH>>PRRC2C(Intra_Chromosomal Canonical 22);PRRC2C>>FH(Intra_Chromosomal Canonical 195);FH>>FH(Intra_Chromosomal Canonical 195);
UEVLD>>NARS2(Intra_Chromosomal Canonical 5);NARS2>>UEVLD(Intra_Chromosomal Canonical 98);
PSPC1>>ZMYM5(Intra_Chromosomal Canonical 3);
HIAT1>>SLC35A3(Intra_Chromosomal Canonical 3);SLC35A3>>HIAT1(Read_Through Canonical 17);
AK124523>>LOC389765(Intra_Chromosomal Canonical 7);LOC389765>>AK124523(Read_Through 15);
AK125749>>C16orf95(Intra_Chromosomal Canonical 36);
SNX30>>KIAA1958(Intra_Chromosomal Canonical 21);
ZNF528>>ZNF880(Intra_Chromosomal Canonical 25);
LOC100506136>>SHFM1(Intra_Chromosomal Canonical 7);
HLA-A>>HLA-B(Intra_Chromosomal Canonical 1);
AY660577/AY660578>>MID1(Intra_Chromosomal Canonical 5);
ST8SIA5>>PIAS2(Intra_Chromosomal Canonical 10);
PCYT1A>>TCTEX1D2(Intra_Chromosomal Canonical 11);
SLC38A6>>MNAT1(Intra_Chromosomal Canonical 6);
SEC61A2>>DHTKD1(Intra_Chromosomal Canonical 5);
ERV3-1>>ZNF117(Read_Through Canonical 1151);
EIF6>>EDEME2(Read_Through Canonical 67);

ARL6IP1>>RPS15A(Read_Through Canonical 67);
TTC23L>>BRX1(Read_Through Canonical 3);

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154);CCDC7>>C10orf68(Read_Through Canonical 11);C10orf68>>CCDC7(Intra_Chromosomal Car
·PRRC2C(Intra_Chromosomal Canonical 59);

Canonical 137);C10orf68>>CCDC7(Intra_Chromosomal Canonical 68);