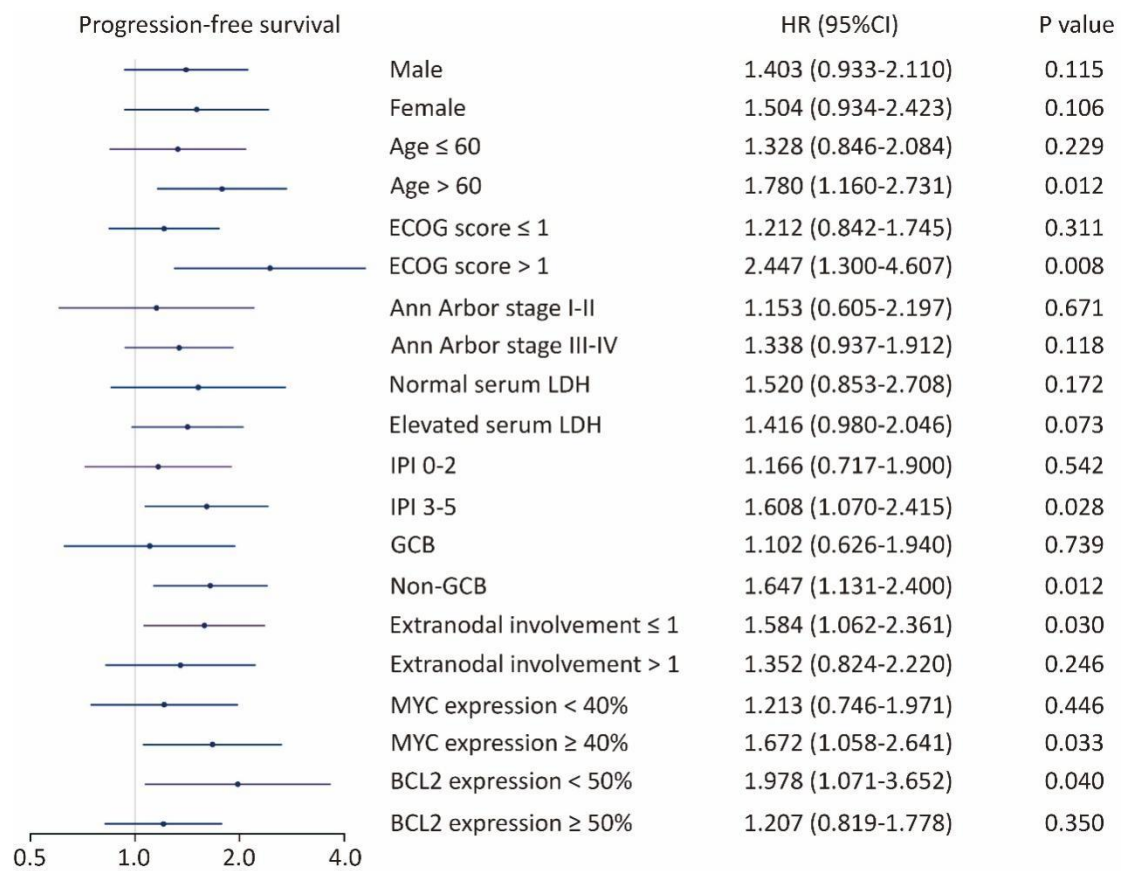
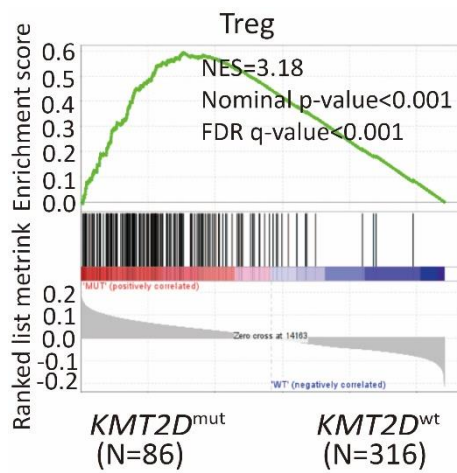


Supplementary Figure 1 Forest plot of univariate analysis on progression-free survival of selected subgroups

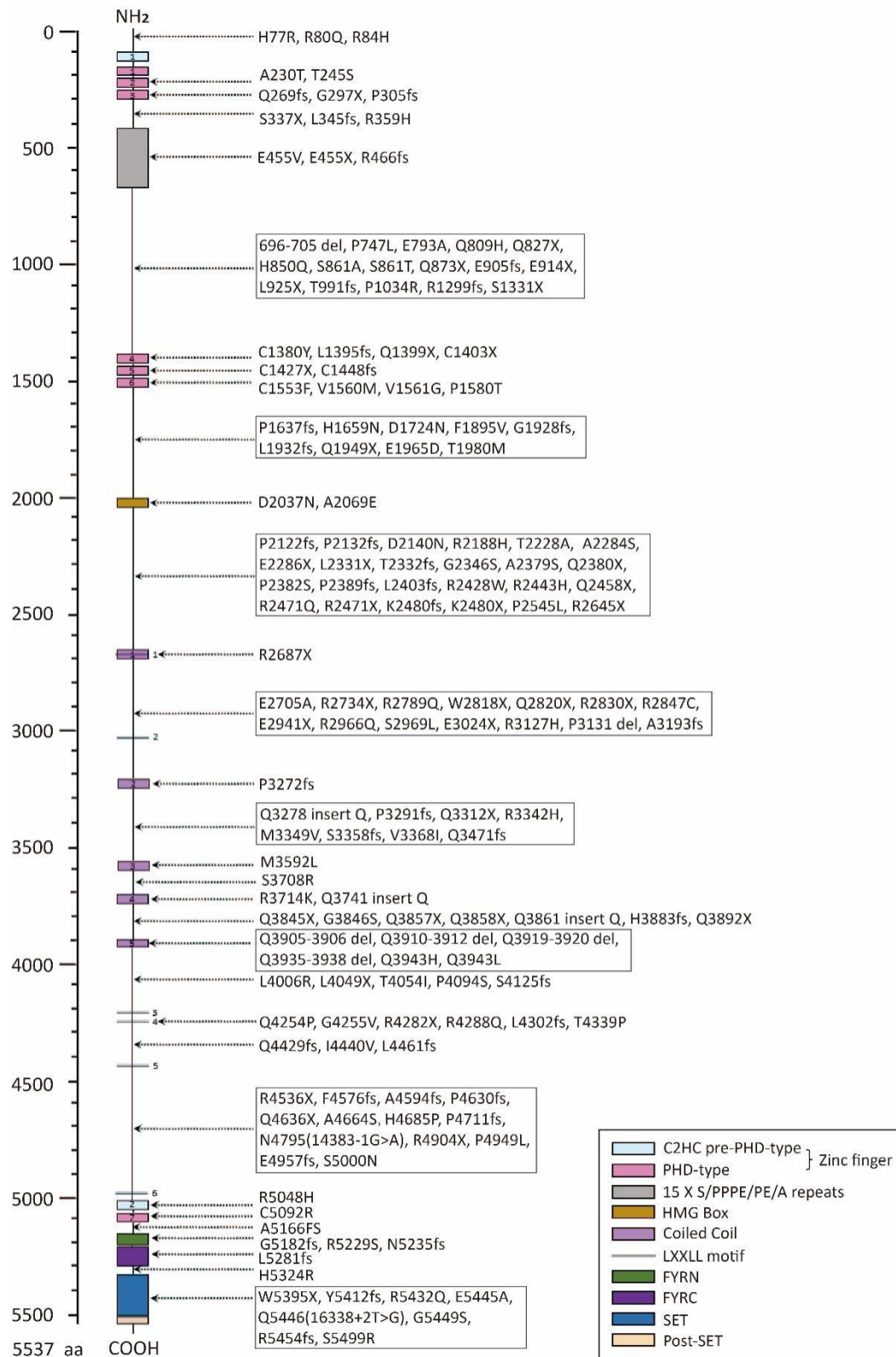


Supplementary Figure 2 *KMT2D* mutations induced Treg cell activation by Gene Set Enrichment Analysis (GSEA)

Prediction of immune subpopulations normalized enrichment scores for DLBCL patients with *KMT2D* mutations using GSEA. GSEA showing association of Treg cells gene signatures with *KMT2D* mutations in diffuse large B-cell lymphoma (DLBCL) patients. Enrichment scores were listed with p-value. NES, normalized enrichment score; FDR, false discovery rate.



Supplementary Figure 3 Schematic representation of *KMT2D* mutations identified in patients

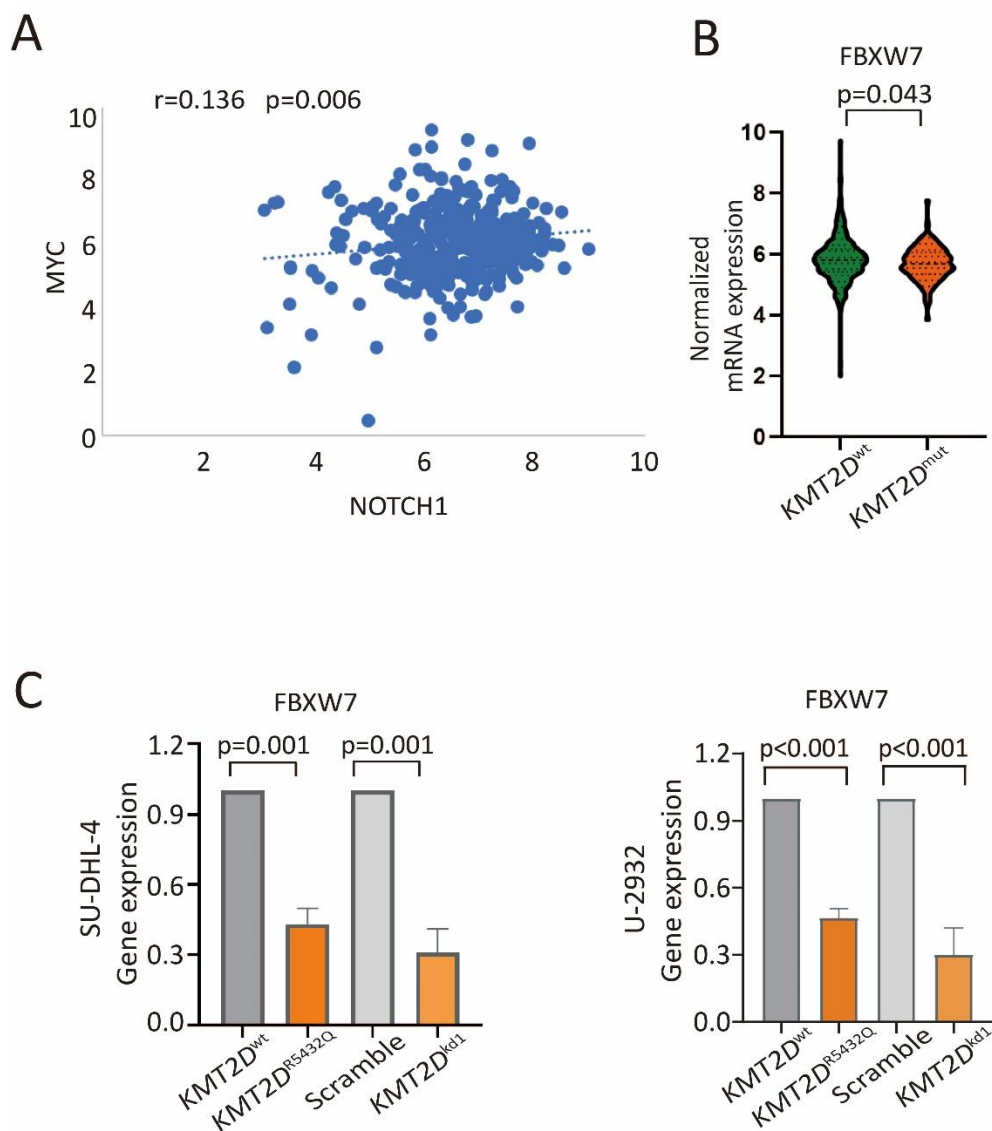


Supplementary Figure 4 *KMT2D* mutations inhibited FBXW7 expression

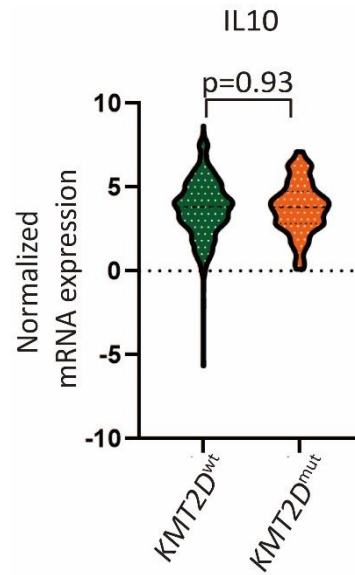
(A). Correlations between MYC and NOTCH1 according to Normalized mRNA expression as revealed by RNA sequencing.

(B). Normalized mRNA expression of FBXW7 in tumor samples of DLBCL patients with or without *KMT2D* mutations as revealed by RNA sequencing.

(C). Relative gene expression of FBXW7 in *KMT2D*^{R5432Q} or *KMT2D*^{kd1} SU-DHL-4 and U-2932 cells, as compared to *KMT2D*^{wt} or Scramble cells by quantitative real-time PCR.



Supplementary Figure 5 Normalized mRNA expression of IL10 in tumor samples of DLBCL patients with or without *KMT2D* mutations as revealed by RNA sequencing



Supplementary Table 1. Sequences of shRNA for KMT2D.

shRNA1	TCGCCTCAAGAAATGGAAA
shRNA2	TCTACATGTTCCGAATAAA

Supplementary Table 2. Sequences of primers for RT-PCR.

Name	Forward	Reverse
TGF- β 1	CAGCAACAATTCCTGGCGATA C	TCAACCACTGCCGCACAAC
FBXW 7	GGCGCCGCGGCTCTTTTCTA	GCTGCCACAGAGAGCAGTTC C

Supplementary Table 3. *KMT2D* mutations identified in 761 DLBCL patients.

Patient ID	Chr	Start	End	Ref	Alt	ExonicFunc.ref Gene	AAChange.refGene
1	chr12	4941 6416	4941 6416	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon51:c.G16295A:p.R5432Q
2	chr12	4943 3620	4943 3620	G	A	stopgain	KMT2D:NM_003482:exon31:c.C7933T:p.R2645X
3	chr12	4942 5584	4942 5584	G	-	frameshift deletion	KMT2D:NM_003482:exon39:c.12904delC:p.L4302fs
4	chr12	4944 6774	4944 6774	AGAG	-	frameshift deletion	KMT2D:NM_003482:exon8:c.1033_1036del:p.L345fs
5	chr12	4942 5625	4942 5625	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.G12863A:p.R4288Q
6	chr12	4944 4388	4944 4400	GCTCAGGGTC AGT	-	frameshift deletion	KMT2D:NM_003482:exon11:c.2971_2983del:p.T991fs
7	chr12	4942 6327	4942 6327	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.C12161T:p.T4054I
8	chr12	4942 4442	4942 4442	-	C	frameshift insertion	KMT2D:NM_003482:exon41:c.13780dupG:p.A4594fs
9	chr12	4943 2242	4943 2242	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.G8897A:p.R2966Q
10	chr12	4942 0475	4942 0475	A	G	nonsynonymous SNV	KMT2D:NM_003482:exon48:c.T15274C:p.C5092R
11	chr12	4943 9706	4943 9706	G	T	nonsynonymous SNV	KMT2D:NM_003482:exon18:c.C4738A:p.P1580T
12	chr12	4942 6730	4942 6732	GCT	-	nonframeshift deletion	KMT2D:NM_003482:exon39:c.11756_11758del:p.3919_3920del
13	chr12	4942 5170	4942 5170	T	C	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.A13318G:p.I4440V
14	chr12	4944 5039	4944 5039	C	G T	nonsynonymous SNV	NM_003482:exon10:p.Q809H
15	chr12	4943 1305	4943 1305	-	C	nonframeshift insertion	KMT2D:NM_003482:exon34:c.9833_9834insGCA:p.Q3278delinsQQ
16	chr12	4943 5135	4943 5135	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G6418A:p.D2140N
17	chr12	4943 3919	4943 3919	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C7634T:p.P2545L
18	chr12	4944 1788	4944 1800	TGCGAACAGG CAA	-	frameshift deletion	KMT2D:NM_003482:exon14:c.4184_4196del:p.L1395fs
19	chr12	4943 3388	4943 3388	G	A	stopgain	KMT2D:NM_003482:exon32:c.C8059T:p.R2687X
20	chr12	4943 2069	4943 2069	C	A	stopgain	KMT2D:NM_003482:exon34:c.G9070T:p.E3024X
21	chr12	4943 6381	4943 6417	AGGAGTCCATT GGGCTGCTGG AGGGCAGATT GCCCAA	-	frameshift deletion	KMT2D:NM_003482:exon27:c.5794_5830del:p.L1932fs
22	chr12	4944 0465	4944 0466	CA	-	frameshift deletion	KMT2D:NM_003482:exon15:c.4344_4345del:p.C1448fs
23	chr12	4943 5157	4943 5157	G	-	frameshift deletion	KMT2D:NM_003482:exon31:c.6396delC:p.P2132fs
24	chr12	4943 4703	4943 4703	C	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G6850T:p.A2284S
25	chr12	4942 4741	4942 4741	G	A	stopgain	KMT2D:NM_003482:exon40:c.C13606T:p.R4536X
26	chr12	4944 2916	4944 2916	G	C	stopgain	KMT2D:NM_003482:exon12:c.C3992G:p.S1331X
27	chr12	4943 4418	4943 4418	C	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G7135T:p.A2379S
28	chr12	4943 4703	4943 4703	C	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G6850T:p.A2284S
29	chr12	4944 6734	4944 6734	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon8:c.G1076A:p.R359H
30	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	NM_003482:exon31:p.P2382S
31	chr12	4943 4990	4943 4990	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G6563A:p.R2188H
32	chr12	4943 8294	4943 8294	G	T	nonsynonymous SNV	KMT2D:NM_003482:exon20:c.C4975A:p.H1659N

33	chr12	4942 6952	4942 6952	C	T	nonsynonymous SNV	NM_003482:exon39:p.G3846S
34	chr12	4941 6115	4941 6115	G	-	frameshift deletion	KMT2D:NM_003482:exon52:c.1636 0delC:p.R5454fs
35	chr12	4943 4181	4943 4181	G	A	stopgain	KMT2D:NM_003482:exon31:c.C737 2T:p.Q2458X
36	chr12	4944 7286	4944 7293	GGGCACTG	-	frameshift deletion	KMT2D:NM_003482:exon6:c.805_8 12del:p.Q269fs
37	chr12	4944 7031	4944 7031	-	T	frameshift insertion	KMT2D:NM_003482:exon7:c.912du pA:p.P305fs
38	chr12	4942 6772	4942 6774	GCT GAGTCCTCAG GTGGTGGGGA TGTGGGG	-	nonframeshift deletion	KMT2D:NM_003482:exon39:c.1171 4_11716del:p.3905_3906del
39	chr12	4944 5352	4944 5378	GCTGGGGG	-	nonframeshift deletion	KMT2D:NM_003482:exon10:c.2088 _2114del:p.696_705del
40	chr12	4942 3205	4942 3205	T	G	nonsynonymous SNV	NM_003482:exon43:p.H4685P
41	chr12	4942 7364	4942 7364	G	C	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.C111 24G:p.S3708R
42	chr12	4943 1114	4943 1114	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.G100 25A:p.R3342H
43	chr12	4944 8481	4944 8481	T	C	nonsynonymous SNV	KMT2D:NM_003482:exon3:c.A230G :p.H77R
44	chr12	4943 1542	4943 1560	GCTGGGGGTC AGCAGGTGA	-	frameshift deletion	KMT2D:NM_003482:exon34:c.9579 _9597del:p.A3193fs
45	chr12	4942 0251	4942 0251	A	-	frameshift deletion	KMT2D:NM_003482:exon48:c.1549 8delT:p.A5166fs
46	chr12	4942 4156	4942 4156	G CAGGGGGTGG CTCCTGGGGCC TTAGGCCCAA GCCCGGGCTCT GGGGCTCTACC TGAGATGCC GAGGGGT	A	stopgain	KMT2D:NM_003482:exon42:c.C139 06T:p.Q4636X
47	chr12	4943 4490	4943 4559	GAGGGGT	-	frameshift deletion	KMT2D:NM_003482:exon31:c.6994 _7063del:p.T2332fs
48	chr12	4944 7410	4944 7410	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon6:c.G688A :p.A230T
49	chr12	4943 4871	4943 4871	T	C	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.A668 2G:p.T2228A
50	chr12	4942 6814	4942 6814	G	A	stopgain	NM_003482:exon39:p.Q3892X
51	chr12	4943 4142	4943 4142	G	A	stopgain	KMT2D:NM_003482:exon31:c.C741 1T:p.R2471X
52	chr12	4941 6377	4941 6377	T	G	nonsynonymous SNV	NM_003482:exon51:p.E5445A
53	chr12	4942 0204	4942 0204	C	-	frameshift deletion	KMT2D:NM_003482:exon48:c.1554 5delG:p.G5182fs
54	chr12	4943 4225	4943 4225	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G732 8A:p.R2443H
55	chr12	4943 9859	4943 9859	A	C	nonsynonymous SNV	NM_003482:exon17:p.V1561G
56	chr12	4944 1789	4944 1789	G	A	stopgain	KMT2D:NM_003482:exon14:c.C419 5T:p.Q1399X
57	chr12	4943 2318	4943 2318	C	A	stopgain	KMT2D:NM_003482:exon34:c.G882 1T:p.E2941X
58	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	NM_003482:exon31:p.P2382S
59	chr12	4942 5099	4942 5106	CAAGAGCA	- T	frameshift deletion	KMT2D:NM_003482:exon39:c.1338 2_13389del:p.L4461fs
60	chr12	4942 7265	4942 7265	-	C	nonframeshift insertion	KMT2D:NM_003482:exon39:c.1122 2_11223insGCA:p.Q3741delinsQQ
61	chr12	4943 8580	4943 8580	G	-	frameshift deletion	KMT2D:NM_003482:exon19:c.4910 delC:p.P1637fs
62	chr12	4944 4987	4944 4987	G	A	stopgain	KMT2D:NM_003482:exon10:c.C247 9T:p.Q827X
63	chr12	4942 6955	4942 6955	G	A	stopgain	KMT2D:NM_003482:exon39:c.C115 33T:p.Q3845X

64	chr12	4944 7410	4944 7410	C	T	nonsynonymous SNV	
65	chr12	4942 4173	4942 4173	G	-	frameshift deletion	
66	chr12	4942 0064	4942 0064	G	T	nonsynonymous SNV	KMT2D:NM_003482:exon48:c.C156 85A:p.R5229S
67	chr12	4943 4141	4943 4141	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G741 2A:p.R2471Q
68	chr12	4942 6115	4942 6115	-	A G	frameshift insertion	KMT2D:NM_003482:exon39:c.1237 2_12373insCT:p.S4125fs
69	chr12	4942 6838	4942 6839	TG	-	frameshift deletion	KMT2D:NM_003482:exon39:c.1164 9_11650del:p.H3883fs
70	chr12	4941 6526	4941 6526	C	T	stopgain	KMT2D:NM_003482:exon51:c.G161 85A:p.W5395X
71	chr12	4944 4692	4944 4692	A	T	stopgain	KMT2D:NM_003482:exon10:c.T277 4A:p.L925X
72	chr12	4943 1324	4943 1324	G	-	frameshift deletion	KMT2D:NM_003482:exon34:c.9815 delC:p.P3272fs
73	chr12	4943 9859	4943 9859	A	C	nonsynonymous SNV	KMT2D:NM_003482:exon17:c.T468 2G:p.V1561G
74	chr12	4943 6427	4943 6427	A	-	frameshift deletion	KMT2D:NM_003482:exon27:c.5784 delT:p.G1928fs
75	chr12	4942 4442	4942 4442	-	C	frameshift insertion	KMT2D:NM_003482:exon41:c.1378 0dupG:p.A4594fs
76	chr12	4942 6754	4942 6759	GTTGCT	-	nonframeshift deletion	KMT2D:NM_003482:exon39:c.1172 9_11734del:p.3910_3912del
77	chr12	4943 1746	4943 1748	AGG	-	nonframeshift deletion	KMT2D:NM_003482:exon34:c.9391 _9393del:p.3131_3131del
78	chr12	4944 0529	4944 0529	A	T	stopgain	KMT2D:NM_003482:exon15:c.T428 1A:p.C1427X
79	chr12	4944 4885	4944 4885	A	T	nonsynonymous SNV	KMT2D:NM_003482:exon10:c.T258 1A:p.S861T
80	chr12	4943 2686	4943 2686	C	T	stopgain	KMT2D:NM_003482:exon34:c.G845 3A:p.W2818X
81	chr12	4943 8001	4943 8001	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon21:c.G517 0A:p.D1724N
82	chr12	4943 6623	4943 6623	A	C	nonsynonymous SNV	KMT2D:NM_003482:exon26:c.T568 3G:p.F1895V
83	chr12	4942 0750	4942 0750	C	T T	nonsynonymous SNV	KMT2D:NM_003482:exon48:c.G149 99A:p.S5000N
84	chr12	4942 6905	4942 6905	-	G C	nonframeshift insertion	KMT2D:NM_003482:exon39:c.1158 2_11583insGCA:p.Q3861delinsQQ
85	chr12	4942 7714	4942 7714	T	G	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.A107 74C:p.M3592L
86	chr12	4943 3247	4943 3247	G	A	stopgain	KMT2D:NM_003482:exon32:c.C820 0T:p.R2734X
87	chr12	4943 3333	4943 3333	T	G	nonsynonymous SNV	KMT2D:NM_003482:exon32:c.A811 4C:p.E2705A
88	chr12	4942 6342	4942 6342	A	T	stopgain	KMT2D:NM_003482:exon39:c.T121 46A:p.L4049X
89	chr12	4943 1759	4943 1759	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.G938 0A:p.R3127H
90	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S
91	chr12	4944 3476	4944 3476	G	-	frameshift deletion	KMT2D:NM_003482:exon11:c.3895 delC:p.R1299fs
92	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S
93	chr12	4943 2233	4943 2233	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.C890 6T:p.S2969L
94	chr12	4941 5852	4941 5852	T	G	nonsynonymous SNV	KMT2D:NM_003482:exon53:c.A164 95C:p.S5499R
95	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S
96	chr12	4903 7254	4903 7254	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.G101 02A:p.V3368I
97	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S

98	chr12	4902 7120	4902 7120	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon48:c.C148 46T:p.P4949L
99	chr12	4903 3581	4903 3581	G	C	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.C111 24G:p.S3708R
100	chr12	4903 2971	4903 2976	GTTGCT	-	nonframeshift deletion	KMT2D:NM_003482:exon39:c.1172 9_11734del:p.3910_3912del
101	chr12	4904 7992	4904 7992	G	T	stopgain	KMT2D:NM_003482:exon14:c.C420 9A:p.C1403X
102	chr12	4903 4609	4903 4609	-	T G C A	frameshift insertion	KMT2D:NM_003482:exon36:c.1041 2_10413insTGCA:p.Q3471fs
103	chr12	4904 2259	4904 2259	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon28:c.C593 9T:p.T1980M
104	chr12	4904 2583	4904 2583	G	A	stopgain	KMT2D:NM_003482:exon27:c.C584 5T:p.Q1949X
105	chr12	4903 2971	4903 2976	GTTGCT	-	nonframeshift deletion	KMT2D:NM_003482:exon39:c.1172 9_11734del:p.3910_3912del rs398123709
106	chr12	4903 0289	4903 0289	C	A	nonsynonymous SNV	KMT2D:NM_003482:exon42:c.G139 90T:p.A4664S
107	chr12	4904 0632	4904 0632	G	A	stopgain	KMT2D:NM_003482:exon31:c.C713 8T:p.Q2380X
108	chr12	4902 8142	4902 8142	C	T	splicing	KMT2D:NM_003482:exon46:c.1438 3-1G>A
109	chr12	4904 0779	4904 0779	G	-	stopgain	KMT2D:NM_003482:exon31:c.6991 delC:p.L2331X
110	chr12	4905 4677	4905 4677	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon3:c.G251A :p.R84H
111	chr12	4943 2600	4943 2600	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.C853 9T:p.R2847C
112	chr12	4944 4747	4944 4753	GTGGTTC	-	frameshift deletion	KMT2D:NM_003482:exon10:c.2713 _2719del:p.E905fs
113	chr12	4944 6070	4944 6070	-	T	frameshift insertion	NM_003482:exon10:p.R466fs
114	chr12	4943 2651	4943 2651	G	A	stopgain	NM_003482:exon34:p.R2830X
115	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	NM_003482:exon31:p.P2382S
116	chr12	4944 5226	4944 5226	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon10:c.C224 0T:p.P747L
116	chr12	4942 6208	4942 6208	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.C122 80T:p.P4094S
116	chr12	4943 5187	4943 5187	G	-	frameshift deletion	KMT2D:NM_003482:exon31:c.6366 delC:p.P2122fs
117	chr12	4941 6468	4941 6477	TGGCTGCATA	-	frameshift deletion	KMT2D:NM_003482:exon51:c.1623 4_16243del:p.Y5412fs
117	chr12	4944 1845	4944 1845	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon14:c.G413 9A:p.C1380Y
118	chr12	4942 1039	4942 1039	G	A	stopgain	KMT2D:NM_003482:exon48:c.C147 10T:p.R4904X
118	chr12	4943 4386	4943 4386	-	G T T T	frameshift insertion	KMT2D:NM_003482:exon31:c.7166 _7167insAACC:p.P2389fs
119	chr12	4942 7265	4942 7265	-	G C	nonframeshift insertion	KMT2D:NM_003482:exon39:c.1122 2_11223insGCA:p.Q3741delinsQQ
119	chr12	4944 8472	4944 8472	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon3:c.G239A :p.R80Q
120	chr12	4942 0044	4942 0044	G	-	frameshift deletion	KMT2D:NM_003482:exon48:c.1570 5delC:p.N5235fs
120	chr12	4943 4517	4943 4517	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.G703 6A:p.G2346S
121	chr12	4944 6102	4944 6102	T	A	nonsynonymous SNV	KMT2D:NM_003482:exon10:c.A136 4T:p.E455V
121	chr12	4944 6103	4944 6103	C	A	stopgain	KMT2D:NM_003482:exon10:c.G136 3T:p.E455X
122	chr12	4943 1094	4943 1094	T	C	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.A100 45G:p.M3349V

				GAGTCCTCAG					
				GTGGTGGGGA					
				TGTGGGG					
122	chr12	4944	4944		-		nonframeshift	KMT2D:NM_003482:exon10:c.2088	
		5352	5378				deletion	_2114del:p.696_705del	
		4942	4942				nonsynonymous		
123	chr12	7347	7347	C	T		SNV	NM_003482:exon39:p.R3714K	
		4943	4943				nonsynonymous		
123	chr12	5466	5466	G	T		SNV	NM_003482:exon30:p.A2069E	
		4943	4943				nonsynonymous		
124	chr12	4409	4409	G	A		SNV	NM_003482:exon31:p.P2382S	
		4944	4944				nonsynonymous		
124	chr12	7364	7364	G	C		SNV	NM_003482:exon6:p.T245S	
		4942	4942				stopgain	KMT2D:NM_003482:exon39:c.C115	
125	chr12	6919	6919	G	A			69T:p.Q3857X	
		4943	4943				nonsynonymous	KMT2D:NM_003482:exon31:c.C728	
125	chr12	4271	4271	G	A		SNV	2T:p.R2428W	
		4942	4942				nonsynonymous		
125	chr12	5473	5473	T	G		SNV	NM_003482:exon39:p.T4339P	
		4942	4942				nonsynonymous		
125	chr12	5727	5727	T	G		SNV	NM_003482:exon39:p.Q4254P	
		4943	4943				stopgain	NM_003482:exon31:p.E2286X	
		4943	4943				nonsynonymous		
125	chr12	6086	6086	T	G		SNV	NM_003482:exon28:p.E1965D	
		4944	4944				nonsynonymous		
125	chr12	4885	4885	A	C		SNV	NM_003482:exon10:p.S861A	
		4944	4944				nonsynonymous		
125	chr12	4916	4916	A	C		SNV	NM_003482:exon10:p.H850Q	
		4942	4942				nonsynonymous	KMT2D:NM_003482:exon48:c.G151	
126	chr12	0606	0606	C	T		SNV	43A:p.R5048H	
		4942	4942				nonsynonymous	KMT2D:NM_003482:exon39:c.G127	
126	chr12	5724	5724	C	A		SNV	64T:p.G4255V	
		4942	4942				nonsynonymous		
126	chr12	6659	6659	C	A		SNV	NM_003482:exon39:p.Q3943H	
		4942	4942				nonsynonymous		
126	chr12	6660	6660	T	A		SNV	NM_003482:exon39:p.Q3943L	
		4944	4944				nonsynonymous		
126	chr12	5088	5088	T	G		SNV	NM_003482:exon10:p.E793A	
		4942	4942				frameshift	KMT2D:NM_003482:exon44:c.1413	
127	chr12	2963	2963	G	-		deletion	2delC:p.P4711fs	
		4941	4941				nonsynonymous	KMT2D:NM_003482:exon50:c.A159	
127	chr12	8442	8442	T	C		SNV	71G:p.H5324R	
		4942	4942				stopgain	KMT2D:NM_003482:exon39:c.C115	
128	chr12	6916	6916	G	A			72T:p.Q3858X	
		4944	4944				stopgain	KMT2D:NM_003482:exon10:c.G274	
128	chr12	4726	4726	C	A			0T:p.E914X	
		4943	4943				frameshift	KMT2D:NM_003482:exon31:c.7438	
129	chr12	4114	4114	-	A		insertion	_7439insT:p.K2480fs	
		4943	4943				stopgain	KMT2D:NM_003482:exon31:c.A743	
129	chr12	4115	4115	T	A			8T:p.K2480X	
		4943	4943				nonsynonymous	KMT2D:NM_003482:exon17:c.G467	
130	chr12	9863	9863	C	T		SNV	8A:p.V1560M	
		4943	4943				nonsynonymous	KMT2D:NM_003482:exon17:c.G465	
130	chr12	9883	9883	C	A		SNV	8T:p.C1553F	
		4942	4942				nonframeshift		
131	chr12	6675	6683	TGCTGCTGT	-		deletion	NM_003482:exon39:p.3935_3938del	
		4944	4944				stopgain	NM_003482:exon10:p.Q873X	
131	chr12	4849	4849	G	A				
		4944	4944				nonsynonymous	KMT2D:NM_003482:exon11:c.C310	
132	chr12	4270	4270	G	C		SNV	1G:p.P1034R	
		4944	4944				stopgain	KMT2D:NM_003482:exon8:c.C1010	
132	chr12	6800	6800	G	T			A:p.S337X	
		4943	4943				frameshift	KMT2D:NM_003482:exon31:c.7207	
133	chr12	4346	4346	G	-		deletion	delC:p.L2403fs	
		4943	4943				nonsynonymous	KMT2D:NM_003482:exon34:c.A100	
133	chr12	1094	1094	T	C		SNV	45G:p.M3349V	
		4942	4942				frameshift	KMT2D:NM_003482:exon48:c.1487	
134	chr12	0869	0878	TCGGGCTGAT	-		deletion	1_14880del:p.E4957fs	
		4943	4943				stopgain	KMT2D:NM_003482:exon34:c.C993	
134	chr12	1205	1205	G	A			4T:p.Q3312X	

135	chr12	4941 6130	4941 6130	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon52:c.G163 45A:p.G5449S
135	chr12	4942 4495	4942 4496	AA	-	frameshift deletion	KMT2D:NM_003482:exon41:c.1372 7_13728del:p.F4576fs
136	chr12	4942 7714	4942 7714	T	G	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.A107 74C:p.M3592L
136	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S
137	chr12	4943 4409	4943 4409	G	A	nonsynonymous SNV	KMT2D:NM_003482:exon31:c.C714 4T:p.P2382S
137	chr12	4943 1257	4943 1267	GGCCTGGGCA G	-	frameshift deletion	KMT2D:NM_003482:exon34:c.9872 _9882del:p.P3291fs
138	chr12	4943 3006	4943 3006	C	T	nonsynonymous SNV	NM_003482:exon33:p.R2789Q
138	chr12	4943 4409	4943 4409	G	A A T	nonsynonymous SNV	NM_003482:exon31:p.P2382S
138	chr12	4944 7055	4944 7055	-	A	stopgain	NM_003482:exon7:p.G297delinsVX
139	chr12	4904 2089	4904 2089	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon28:c.G610 9A:p.D2037N
139	chr12	4903 2688	4903 2688	A	C	nonsynonymous SNV	KMT2D:NM_003482:exon39:c.T120 17G:p.L4006R rs777667777
140	chr12	4903 1418	4903 1418	-	T	frameshift insertion	KMT2D:NM_003482:exon39:c.1328 6dupA:p.Q4429fs
140	chr12	4903 7283	4903 7283	C	-	frameshift deletion	KMT2D:NM_003482:exon34:c.1007 3delG:p.S3358fs
141	chr12	4902 4886	4902 4890	CGCAG	-	frameshift deletion	KMT2D:NM_003482:exon49:c.1584 1_15845del:p.L5281fs
141	chr12	4902 2588	4902 2588	A	C	splicing	KMT2D:NM_003482:exon51:c.1633 8+2T>G
142	chr12	4903 8898	4903 8898	G	A	stopgain	KMT2D:NM_003482:exon34:c.C845 8T:p.Q2820X
142	chr12	4903 7331	4903 7331	C	T	nonsynonymous SNV	KMT2D:NM_003482:exon34:c.G100 25A:p.R3342H
143	chr12	4903 1861	4903 1861	G	A CT	stopgain	KMT2D:NM_003482:exon39:c.C128 44T:p.R4282X
143	chr12	4903 3482	4903 3485	TTGC	G T	nonframeshift substitution	KMT2D:NM_003482:exon39:c.1122 0_11223ACAG