

S3 Table. Genetic alterations detected by next-generation sequencing and Sanger sequencing

	<i>ABL1</i>	<i>ABL2</i>	<i>ADGRL2</i>	<i>AKT1</i>	<i>ARID1A</i>	<i>ARID1B</i>	<i>ARID2</i>	<i>ATM</i>	<i>B9D2</i>	<i>BCAM</i>	<i>BCL2</i>	<i>BCOR</i>
Case 1	-	-	-	-	-	-	MISSENSE (R558H)	-	-	MISSENSE (R582W)	-	-
Case 2	-	-	-	-	-	-	-	-	-	-	-	-
Case 3	-	-	-	-	-	-	MISSENSE (G936C)	-	-	-	-	-
Case 4	-	-	-	-	-	-	-	-	-	MISSENSE (V126M)	AMP	-
Case 5	MISSENSE (P58S)	-	-	-	-	-	-	-	-	-	-	-
Case 6	-	-	-	-	-	-	-	-	-	-	-	-
Case 7	-	-	-	-	MISSENSE (P1651L)	-	-	-	-	-	-	-
Case 8	-	-	-	-	-	-	-	-	-	-	-	-
Case 9	-	-	-	-	-	-	-	-	-	-	-	-
Case 10	-	-	-	-	MISSENSE (N865S, Q1579R)	-	-	-	-	-	-	-
Case 11	-	-	-	-	-	-	-	-	-	-	HOMDEL	-
Case 12	-	-	-	-	-	-	-	-	-	-	-	-
Case 13	-	-	-	-	-	-	-	-	-	HOMDEL	-	-
Case 14	-	-	-	-	-	-	-	-	-	-	HOMDEL	-
Case 15	-	-	-	-	-	MISSENSE (S49F)	-	-	-	-	HOMDEL	-
Case 16	-	-	-	-	-	INFRAME (G219dup)	-	-	AMP	-	-	-
Case 17	-	-	-	-	-	-	-	-	-	-	-	-
Case 18	-	-	-	-	-	-	-	-	-	-	-	-
Case 19	-	-	-	-	-	-	-	-	-	-	-	-
Case 20	-	-	-	MISSENSE (I75M)	-	-	-	MISSENSE (R13C)	-	-	-	-
Case 21	-	MISSENSE (R63H)	-	-	-	-	-	-	-	-	-	-
Case 22	-	-	-	-	-	-	MISSENSE (V103I)	-	-	-	-	TRUNC (K1039Rfs*39)
Case 23	-	-	-	-	-	-	-	-	-	-	-	TRUNC (D801Efs*6)
Case 24	-	-	-	-	-	-	-	-	-	-	-	-
Case 25	-	-	TRUNC (L926*)	-	-	-	-	MISSENSE (H2480R)	-	-	-	-

AMP, amplification; HOMDEL, homogenous deletion; INFRAME, in-frame insertion or deletion; MISSENSE, missense mutation; TRUNC, truncation mutation.

	<i>BICRA</i>	<i>BLNK</i>	<i>BRCA1</i>	<i>BRCA2</i>	<i>BSND</i>	<i>CBL</i>	<i>CCNE2</i>	<i>CDK4</i>	<i>CDKN2A</i>	<i>CDKN2B</i>	<i>CDKN2C</i>	<i>CIC</i>
Case 1	-	-	-	-	-	-	-	-	-	-	-	-
Case 2	-	-	MISSENSE (L52F)	-	MISSENSE (P224S)	-	-	-	HOMDEL	HOMDEL	-	-
Case 3	-	-	-	-	-	-	-	-	-	-	-	-
Case 4	-	-	-	-	-	MISSENSE (W408C)	-	-	HOMDEL	HOMDEL	-	-
Case 5	-	-	-	-	-	-	-	-	-	-	-	-
Case 6	-	-	-	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 7	-	-	-	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 8	-	-	-	-	-	-	-	-	-	-	-	-
Case 9	-	-	MISSENSE (L52F)	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 10	MISSENSE (A997V)	-	-	-	-	MISSENSE (L405R)	-	-	HOMDEL	HOMDEL	-	-
Case 11	-	-	-	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 12	-	-	-	-	-	-	-	-	-	-	-	-
Case 13	HOMDEL	-	-	-	-	-	-	-	HOMDEL	HOMDEL	HOMDEL	HOMDEL
Case 14	-	MISSENSE (S129C)	-	-	-	-	-	-	HOMDEL	-	-	-
Case 15	-	-	-	-	-	-	-	-	-	-	-	-
Case 16	-	-	-	-	-	-	-	-	-	-	-	-
Case 17	-	-	-	MISSENSE (E984G)	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 18	-	-	-	-	-	-	TRUNC (Y203*)	-	HOMDEL	-	-	-
Case 19	-	-	-	-	-	-	-	AMP	-	-	-	-
Case 20	-	-	-	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 21	-	-	-	-	-	-	-	-	HOMDEL	HOMDEL	-	-
Case 22	-	-	-	-	-	-	-	-	-	-	-	-
Case 23	-	-	-	MISSENSE (V208G)	-	-	-	-	-	-	-	-
Case 24	HOMDEL	-	-	-	-	-	-	-	-	-	-	-
Case 25	-	-	-	-	-	-	-	AMP	-	-	-	-

	<i>ID2</i>	<i>IDH1</i>	<i>IDH2</i>	<i>ITGB4</i>	<i>KDM4D</i>	<i>KDM5A</i>	<i>KDM6A</i>	<i>KDM6B</i>	<i>KDR</i>	<i>KEL</i>	<i>KIT</i>	<i>KLF4</i>
Case 1	-	-	-	-	-	-	-	-	-	-	-	-
Case 2	-	-	-	-	-	-	-	MISSENSE (A865V)	-	-	-	-
Case 3	-	-	-	-	-	-	-	-	-	-	-	-
Case 4	-	-	-	-	-	-	-	-	AMP	-	AMP	-
Case 5	-	-	-	-	-	-	-	-	-	-	-	-
Case 6	-	-	-	-	-	-	-	-	-	-	-	-
Case 7	-	-	-	-	-	-	-	-	-	-	-	-
Case 8	-	-	-	-	-	-	-	-	-	-	-	-
Case 9	-	-	-	-	-	-	-	-	-	-	-	-
Case 10	-	-	-	MISSENSE (A2V)	-	MISSENSE (A1542T)	-	-	-	MISSENSE (M1?)	-	-
Case 11	-	-	-	MISSENSE (V1081I)	-	-	-	-	-	-	-	-
Case 12	-	-	-	-	-	-	-	-	-	MISSENSE (A645V)	-	-
Case 13	-	-	-	-	-	-	-	-	AMP	-	AMP	MISSENSE (A68G)
Case 14	-	-	-	-	-	-	-	-	-	-	-	-
Case 15	-	-	-	-	-	MISSENSE (S1429I)	-	-	-	-	MISSENSE (S501F)	MISSENSE (A68G)
Case 16	-	-	-	-	MISSENSE (A59P)	-	-	-	-	-	-	-
Case 17	-	-	-	-	-	-	-	-	-	-	-	-
Case 18	-	-	-	-	-	-	-	-	-	-	-	-
Case 19	-	-	-	-	-	-	-	-	-	-	-	-
Case 20	-	-	-	-	-	-	-	-	-	-	-	-
Case 21	-	-	-	-	-	-	MISSENSE (G350S)	TRUNC (P842Hfs*52)	-	-	AMP	-
Case 22	MISSENSE (M125I)	-	-	-	-	-	-	-	-	-	-	-
Case 23	-	-	-	-	-	-	-	MISSENSE (R411Q)	-	-	-	-
Case 24	-	-	-	-	-	-	-	-	-	MISSENSE (R281Q)	-	-
Case 25	-	-	-	-	-	-	-	-	MISSENSE (D814N)	-	-	-

	<i>KMT2B</i>	<i>KMT2C</i>	<i>KMT2D</i>	<i>LRIG2</i>	<i>LRP1B</i>	<i>LZTR1</i>	<i>MALT1</i>	<i>MDM2</i>	<i>MDM4</i>	<i>MET</i>	<i>MSH3</i>	<i>MSH6</i>
Case 1	-	-	-	-	-	-	-	-	-	-	-	-
Case 2	-	MISSENSE (N3347S)	MISSENSE (M644L/P2938L)	MISSENSE (I392M)	-	-	-	-	-	-	-	-
Case 3	-	MISSENSE (C394Y)	-	-	-	-	-	-	-	-	-	-
Case 4	-	-	-	-	MISSENSE (V2967I)	-	AMP	-	-	-	-	-
Case 5	-	-	-	-	-	-	-	-	-	-	-	-
Case 6	-	MISSENSE (C394Y)	MISSENSE (E641D/G5410R)	-	-	-	-	-	-	-	-	-
Case 7	-	MISSENSE (E765G)	MISSENSE (T810P)	-	-	TRUNC (R198_Splice)	-	-	AMP	-	-	-
Case 8	-	-	MISSENSE (T458P)	-	-	-	-	-	-	-	-	-
Case 9	MISSENSE (V1948I/P2235S)	-	MISSENSE (T810P/Q827H)	-	-	-	-	-	-	-	-	-
Case 10	-	MISSENSE (M1895V)	MISSENSE (T810P)	-	-	-	-	AMP	-	-	-	-
Case 11	-	-	MISSENSE (M644L/T810P)	-	-	-	-	-	-	-	-	-
Case 12	-	MISSENSE (E765G)	MISSENSE (T810P)	-	-	MISSENSE (L553R)	-	-	-	-	-	-
Case 13	-	-	-	-	-	-	-	-	-	-	MISSENSE (C822Y)	-
Case 14	-	MISSENSE (C394Y)	MISSENSE (T458P/E4939K)	-	-	-	-	-	-	-	-	-
Case 15	-	MISSENSE (G382C/M305I)	MISSENSE (T810P)	-	-	-	-	-	-	-	-	-
Case 16	MISSENSE (N1714S)	-	MISSENSE (M644L)	-	-	-	-	-	-	-	-	-
Case 17	-	MISSENSE (C394Y)	MISSENSE (T810P)	-	-	-	-	-	-	-	-	-
Case 18	-	-	MISSENSE (T810P)	-	-	-	-	-	-	-	-	-
Case 19	-	-	MISSENSE (T810P)	-	MISSENSE (R2219H)	-	-	-	-	-	-	-
Case 20	-	-	MISSENSE (T458P/T4629P)	-	-	-	-	-	-	-	-	TRUNC (Q657Rfs*6)
Case 21	-	-	MISSENSE (M644L/T810P)	-	MISSENSE (R2165W)	-	-	-	-	-	-	-
Case 22	-	INFRAME (T2670del)	-	-	-	-	-	-	-	-	-	-
Case 23	-	-	-	AMP	MISSENSE (C4217R)	-	-	-	-	AMP	-	-
Case 24	-	-	MISSENSE (M644L)	-	-	-	-	-	AMP	-	-	-
Case 25	-	-	-	-	MISSENSE (Q3734K)	-	-	-	-	-	-	-

	<i>MTOR</i>	<i>MYCN</i>	<i>MYD88</i>	<i>MZF1</i>	<i>NF1</i>	<i>NOTCH1</i>	<i>NOTCH2</i>	<i>NOTCH3</i>	<i>NOTCH4</i>	<i>NRAS</i>	<i>NTRK2</i>	<i>NTRK3</i>
Case 1	-	-	-	MISSENSE (Q720H)	TRUNC (R1947*, R2616*)	-	-	-	-	-	-	-
Case 2	-	-	-	-	MISSENSE (G722R)	-	-	-	MISSENSE (R937S/T1150M)	-	-	MISSENSE (L101I)
Case 3	-	AMP	-	-	-	-	-	-	-	-	-	-
Case 4	MISSENSE (S2215F)	-	-	MISSENSE (V137M)	-	-	-	-	-	-	AMP	-
Case 5	-	-	-	-	-	INFRAME (V1578del)	-	-	-	-	-	-
Case 6	-	-	-	-	-	-	-	-	-	-	-	-
Case 7	-	-	-	-	TRUNC (Q2413*)	-	-	-	-	-	-	-
Case 8	-	-	-	-	-	-	-	-	-	-	-	-
Case 9	-	-	-	MISSENSE (S256Y)	-	-	-	-	MISSENSE (R585C)	-	-	-
Case 10	-	-	-	-	-	MISSENSE (K658R)	-	AMP	MISSENSE (E513D)	-	-	-
Case 11	-	-	-	-	TRUNC (Y1762Ifs*11/R1949Sfs*6)	-	-	-	-	-	-	-
Case 12	-	-	-	-	-	MISSENSE (G1088V)	-	-	-	-	-	-
Case 13	-	-	-	-	-	AMP	-	-	-	-	-	-
Case 14	-	-	-	-	TRUNC (R1554_Splice)	-	-	-	-	-	-	-
Case 15	-	-	-	MISSENSE (V360I)	MISSENSE (L578P)	MISSENSE (D1808N)	-	-	-	-	-	-
Case 16	-	-	-	-	-	-	-	-	-	-	-	-
Case 17	-	-	-	-	MISSENSE (F1434L)	-	-	-	-	-	-	-
Case 18	-	-	-	-	-	-	-	AMP	MISSENSE (P919L)	-	-	-
Case 19	-	-	MISSENSE (I130T)	-	-	-	-	-	-	-	-	-
Case 20	-	-	-	-	TRUNC (W777*/R2616*)	-	-	-	-	-	-	-
Case 21	-	-	-	-	-	-	-	-	-	-	-	-
Case 22	-	-	-	-	TRUNC (C1924Ffs*18)	-	MISSENSE (R1895H)	-	-	-	-	-
Case 23	-	-	-	-	-	-	-	-	-	AMP	-	-
Case 24	-	-	-	-	-	-	-	MISSENSE (H1095Q)	-	-	-	-
Case 25	-	-	-	MISSENSE (R103H)	-	AMP	-	-	-	-	-	-

	<i>TERT</i>	<i>TOP2A</i>	<i>TP53</i>	<i>TSC1</i>	<i>TSC2</i>	<i>WWTR1</i>
Case 1	-	-	MISSENSE (R175H/R248Q)	-	-	-
Case 2	PROMOTER (C250T)	-	-	-	-	-
Case 3	PROMOTER (C228T)	-	MISSENSE (V172F)	-	-	-
Case 4	-	-	-	-	-	-
Case 5	PROMOTER (C228T)	-	MISSENSE (R248W)	-	-	-
Case 6	PROMOTER (C228T)	-	-	-	-	-
Case 7	PROMOTER (C228T) ^{a)}	-	-	-	-	-
Case 8	PROMOTER (C228T)	-	-	-	-	-
Case 9	PROMOTER (C228T)	-	-	-	-	-
Case 10	PROMOTER (C250T)	-	-	-	MISSENSE (H1773R)	-
Case 11	-	-	-	-	-	-
Case 12	-	-	MISSENSE (R273H)	-	-	MISSENSE (P106A)
Case 13	-	-	-	-	-	-
Case 14	PROMOTER (C250T)	-	MISSENSE (P151H)	MISSENSE (C259Y)	-	-
Case 15	-	-	TRUNC (V122Dfs*26)	-	-	-
Case 16	PROMOTER (C250T)	-	MISSENSE (R248Q)	-	-	-
Case 17	-	-	MISSENSE (R165H)	-	-	-
Case 18	PROMOTER (C250T)	-	-	-	-	-
Case 19	PROMOTER (C250T)	-	MISSENSE (R273C)	-	-	-
Case 20	PROMOTER (C228T)	-	-	-	-	-
Case 21	PROMOTER (C228T)	-	TRUNC (S261_Splice)	-	-	-
Case 22	PROMOTER (C250T)	-	TRUNC (F212Sfs*3)	-	TRUNC (W1208*)	-
Case 23	PROMOTER (C228T)	MISSENSE (K1071R)	MISSENSE (R248W)	-	-	-
Case 24	PROMOTER (C228T)	-	-	-	-	-
Case 25	-	-	MISSENSE (V157F)	-	-	-

PROMOTER, promoter mutation

^{a)}In this case, *TERT* promoter mutation was detected only in Sanger sequencing.