Supplementary table 3. Variants detected by targeted sequencing

Sample	Gene	HGVSg	HGVSc	HGVSp	Variant allele frequency
MM32	ARID1A	chr1:g.27092809C>T	NM_139135.2:c.2830C>T	NP_624361.1:p.(Gln944*)	33.23
MM30	ATM	chr11:g.108098424G>A	NM_000051.3:c.72+1G>A		51.75
MM66	ATM	chr11:g.108128241_108128242del	NM_000051.3:c.2284_2285del	NP_000042.3:p.(Leu762Valfs*2)	48.34
MM33	ATM	chr11:g.108128241_108128242del	NM_000051.3:c.2284_2285del	NP_000042.3:p.(Leu762Valfs*2)	55.31
MM32	ATM	chr11:g.108173733C>T	NM_000051.3:c.5473C>T	NP_000042.3:p.(Gln1825*)	51.58
MM38	BRAF	chr7:g.140453134T>C	NM_004333.4:c.1801A>G	NP_004324.2:p.(Lys601Glu)	35.64
MM33	BRAF	chr7:g.140453136A>T	NM_004333.4:c.1799T>A	NP_004324.2:p.(Val600Glu)	34.44
MM16	BRAF	chr7:g.140453136A>T	NM_004333.4:c.1799T>A	NP_004324.2:p.(Val600Glu)	30.28
MM32	BRAF	chr7:g.140481411C>A	NM_004333.4:c.1397G>T	NP_004324.2:p.(Gly466Val)	44.26
MM5	CCND1	chr11:g.69456140C>G	NM_053056.2:c.59C>G	NP_444284.1:p.(Ala20Gly)	21.11
MM5	CCND1	chr11:g.69456211T>G	NM_053056.2:c.130T>G	NP_444284.1:p.(Tyr44Asp)	20.99
MM73	CDKN1B	chr12:g.12870928T>G	NM_004064.3:c.155T>G	NP_004055.1:p.(Met52Arg)	53.87
MM3	CDKN2A	chr9:g.21971105C>G	NM_000077.4:c.253G>C	NP_000068.1:p.(Ala85Pro)	17.27
MM13	CDKN2A	chr9:g.21974731delinsTT	NM_000077.4:c.97delinsAA	NP_000068.1:p.(Glu33Lysfs*11)	32.52
MM41	CRBN	chr3:g.3194143G>C	NM_016302.3:c.1145C>G	NP_057386.2:p.(Pro382Arg)	25.95
MM39	CRBN	chr3:g.3194205_3194208del	NM_016302.3:c.1080_1083del	NP_057386.2:p.(Thr361Cysfs*7)	23.57
MM39	CRBN	chr3:g.3214536C>A	NM_016302.3:c.451G>T	NP_057386.2:p.(Gly151*)	14.53
MM46	CYLD	chr16:g.50783962_50783965del	NM_015247.2:c.353_356del	NP_056062.1:p.(Arg118Lysfs*7)	38.87
MM2	CYLD	chr16:g.50825479C>T	NM_015247.2:c.2119C>T	NP_056062.1:p.(Gln707*)	53.50
MM74	DDX3X	chrX:g.41202016_41202019dup	NM_001356.3:c.470_473dup	NP_001347.3:p.(Ile158Metfs*3)	11.97
MM6	DIS3	chr13:g.73336166C>T	NM_014953.3:c.2237G>A	NP_055768.3:p.(Arg746His)	24.22
MM64	DIS3	chr13:g.73342922C>T	NM_014953.3:c.1883+1G>A		42.11
MM23	DIS3	chr13:g.73345240G>A	NM_014953.3:c.1649C>T	NP_055768.3:p.(Ser550Phe)	40.90
MM53	DIS3	chr13:g.73346337T>C	NM_014953.3:c.1463A>G	NP_055768.3:p.(Asp488Gly)	30.66
MM18	DIS3	chr13:g.73350115T>A	NM_014953.3:c.770A>T	NP_055768.3:p.(Asn257Ile)	34.12
MM8	DIS3	chr13:g.73350139C>A	NM_014953.3:c.746G>T	NP_055768.3:p.(Gly249Val)	98.84
MM51	DIS3	chr13:g.73350173_73350175del	NM_014953.3:c.710_712del	NP_055768.3:p.(Leu237del)	23.42
MM62	DNMT3A	chr2:g.25467132C>T	NM_022552.4:c.1743G>A	NP_072046.2:p.(Trp581*)	26.93
MM72	DNMT3A	chr2:g.25467479A>T	NM_022552.4:c.1597T>A	NP_072046.2:p.(Tyr533Asn)	12.08
MM26	EGR1	chr5:g.137801649_137801651dup	NM_001964.2:c.199_201dup	NP_001955.1:p.(Ser67dup)	29.05
MM36	EGR1	chr5:g.137803521_137803544dup	NM_001964.2:c.1383_1406dup	NP_001955.1:p.(Ala462_Pro469dup)	36.88
MM54	EP300	chr22:g.41572350C>T	NM_001429.3:c.4879C>T	NP_001420.2:p.(Arg1627Trp)	10.53
MM31	EP300	chr22:g.41574342_41574353del	NM_001429.3:c.6627_6638del	NP_001420.2:p.(Asn2209_Gln2213delinsLys)	10.43
MM40	EP300	chr22:g.41574358C>G	NM_001429.3:c.6643C>G	NP_001420.2:p.(Gln2215Glu)	44.33
MM13	FAM46C	chr1:g.118165764G>T	NM_017709.3:c.274G>T	NP_060179.2:p.(Asp92Tyr)	22.61
MM38	FAM46C	chr1:g.118166011G>A	NM_017709.3:c.521G>A	NP_060179.2:p.(Arg174Gln)	8.29

MM6	FAM46C	chr1:g.118166034G>T	NM_017709.3:c.544G>T	NP_060179.2:p.(Asp182Tyr)	32.27
MM20	FAM46C	chr1:g.118166053T>C	NM_017709.3:c.563T>C	NP_060179.2:p.(Leu188Pro)	13.68
MM38	FAM46C	chr1:g.118166094_118166098del	NM_017709.3:c.604_608del	NP_060179.2:p.(Ile202*)	6.48
MM36	FAM46C	chr1:g.118166317T>G	NM_017709.3:c.827T>G	NP_060179.2:p.(Ile276Ser)	43.63
MM63	FAM46C	chr1:g.118166456_118166457delinsTC	NM_017709.3:c.966_967delinsTC	NP_060179.2:p.(Met322_Gly323delinsIleArg)	37.01
MM67	FAM46C	chr1:g.118166506G>T	NM_017709.3:c.1016G>T	NP_060179.2:p.(Arg339Leu)	89.20
MM67	FAM46C	chr1:g.118166602_118166609del	NM_017709.3:c.1112_1119del	NP_060179.2:p.(Tyr371Cysfs*18)	89.67
MM7	FGFR3	chr4:g.1803564C>T	NM_000142.4:c.742C>T	NP_000133.1:p.(Arg248Cys)	55.46
MM30	FGFR3	chr4:g.1803564C>T	NM_000142.4:c.742C>T	NP_000133.1:p.(Arg248Cys)	44.40
MM31	FGFR3	chr4:g.1803623_1803676del	NM_000142.4:c.801_854del	NP_000133.1:p.(Gly268_Ile285del)	11.44
MM8	FGFR3	chr4:g.1806088_1806089delinsAT	NM_000142.4:c.1107_1108delinsAT	NP_000133.1:p.(Gly370Cys)	44.67
MM59	FGFR3	chr4:g.1808962del	NM_000142.4:c.2394del	NP_000133.1:p.(Ser800Alafs*20)	10.68
MM16	HIST1H1E	chr6:g.26156911G>A	NM_005321.2:c.293G>A	NP_005312.1:p.(Gly98Asp)	33.94
MM43	HIST1H1E	chr6:g.26157102G>A	NM_005321.2:c.484G>A	NP_005312.1:p.(Ala162Thr)	12.66
MM44	HIST1H1E	chr6:g.26157151C>T	NM_005321.2:c.533C>T	NP_005312.1:p.(Ala178Val)	20.08
MM69	HIST1H1E	chr6:g.26157205C>T	NM_005321.2:c.587C>T	NP_005312.1:p.(Pro196Leu)	36.32
MM25	IDH2	chr15:g.90631838C>T	NM_002168.2:c.515G>A	NP_002159.2:p.(Arg172Lys)	19.75
MM37	KRAS	chr12:g.25378647T>A	NM_033360.2:c.351A>T	NP_203524.1:p.(Lys117Asn)	45.60
MM47	KRAS	chr12:g.25378647T>G	NM_033360.2:c.351A>C	NP_203524.1:p.(Lys117Asn)	11.67
MM73	KRAS	chr12:g.25380268A>C	NM_033360.2:c.190T>G	NP_203524.1:p.(Tyr64Asp)	12.04
MM66	KRAS	chr12:g.25380275T>A	NM_033360.2:c.183A>T	NP_203524.1:p.(Gln61His)	41.42
MM4	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	33.62
MM52	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	13.22
MM5	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	11.05
MM20	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	45.63
MM25	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	35.45
MM64	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	45.15
MM12	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	19.78
MM53	KRAS	chr12:g.25380275T>G	NM_033360.2:c.183A>C	NP_203524.1:p.(Gln61His)	27.01
MM62	KRAS	chr12:g.25380280_25380282del	NM_033360.2:c.176_178del	NP_203524.1:p.(Ala59del)	25.00
MM71	KRAS	chr12:g.25380282G>T	NM_033360.2:c.176C>A	NP_203524.1:p.(Ala59Glu)	12.72
MM54	KRAS	chr12:g.25398248A>T	NM_033360.2:c.71T>A	NP_203524.1:p.(Ile24Asn)	9.33
MM67	KRAS	chr12:g.25398281C>T	NM_033360.2:c.38G>A	NP_203524.1:p.(Gly13Asp)	42.61
MM51	KRAS	chr12:g.25398284C>G	NM_033360.2:c.35G>C	NP_203524.1:p.(Gly12Ala)	19.13
MM46	KRAS	chr12:g.25398284C>G	NM_033360.2:c.35G>C	NP_203524.1:p.(Gly12Ala)	20.49
MM1	KRAS	chr12:g.25398285C>G	NM_033360.2:c.34G>C	NP_203524.1:p.(Gly12Arg)	38.15
MM44	LTB	chr6:g.31549590C>G	NM_002341.1:c.208+1G>C		60.81
MM11	LTB	chr6:g.31549590C>T	NM_002341.1:c.208+1G>A		21.04
MM11	LTB	chr6:g.31549600G>A	NM_002341.1:c.199C>T	NP_002332.1:p.(Gln67*)	26.07

MM39	LTB	chr6:g.31549637C>G	NM_002341.1:c.163-1G>C		46.86
MM44	LTB	chr6:g.31549637C>T	NM_002341.1:c.163-1G>A		61.05
MM50	MAX	chr14:g.65560499_65560522del	NM_002382.4:c.75_98del	NP_002373.3:p.(Ala26_Arg33del)	98.67
MM50	NRAS	chr1:g.115256529T>A	NM_002524.4:c.182A>T	NP_002515.1:p.(Gln61Leu)	50.98
MM27	NRAS	chr1:g.115256529T>C	NM_002524.4:c.182A>G	NP_002515.1:p.(Gln61Arg)	33.73
MM76	NRAS	chr1:g.115256529T>C	NM_002524.4:c.182A>G	NP_002515.1:p.(Gln61Arg)	39.66
MM2	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	42.86
MM45	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	64.31
MM44	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	40.29
MM75	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	52.44
MM68	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	47.89
MM63	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	45.10
MM55	NRAS	chr1:g.115256530G>T	NM_002524.4:c.181C>A	NP_002515.1:p.(Gln61Lys)	21.85
MM19	NRAS	chr1:g.115258747C>G	NM_002524.4:c.35G>C	NP_002515.1:p.(Gly12Ala)	33.51
MM43	NRAS	chr1:g.115258748C>G	NM_002524.4:c.34G>C	NP_002515.1:p.(Gly12Arg)	9.78
MM23	NRAS	chr1:g.115258748C>T	NM_002524.4:c.34G>A	NP_002515.1:p.(Gly12Ser)	44.51
MM72	PRDM1	chr6:g.106554975del	NM_001198.3:c.2092del	NP_001189.2:p.(His698Ilefs*9)	9.30
MM6	PRDM1	chr6:g.106554982_106554983del	NM_001198.3:c.2099_2100del	NP_001189.2:p.(Cys700*)	37.65
MM40	PTPN11	chr12:g.112888165G>C	NM_002834.3:c.181G>C	NP_002825.3:p.(Asp61His)	34.94
MM41	PTPN11	chr12:g.112888199C>T	NM_002834.3:c.215C>T	NP_002825.3:p.(Ala72Val)	24.15
MM74	RASA2	chr3:g.141292814del	NM_006506.2:c.1388del	NP_006497.2:p.(Leu463Tyrfs*6)	9.35
MM32	RASA2	chr3:g.141295889C>T	NM_006506.2:c.1531C>T	NP_006497.2:p.(Arg511Cys)	44.18
MM28	RASA2	chr3:g.141295890G>A	NM_006506.2:c.1532G>A	NP_006497.2:p.(Arg511His)	55.98
MM72	RB1	chr13:g.48941648C>T	NM_000321.2:c.958C>T	NP_000312.2:p.(Arg320*)	12.98
MM16	RRAGC	chr1:g.39322645T>C	NM_022157.3:c.347A>G	NP_071440.1:p.(Asp116Gly)	43.25
MM62	RRAGC	chr1:g.39322741T>G	NM_022157.3:c.251A>C	NP_071440.1:p.(Lys84Thr)	24.92
MM10	SP140	chr2:g.231090569C>T	NM_007237.4:c.10C>T	NP_009168.4:p.(Gln4*)	35.44
MM73	STAT3	chr17:g.40475061_40475063del	NM_139276.2:c.1847_1849del	NP_644805.1:p.(Glu616del)	24.89
MM32	TET2	chr4:g.106157212C>T	NM_001127208.2:c.2113C>T	NP_001120680.1:p.(Gln705*)	46.99
MM54	TET2	chr4:g.106158367_106158368del	NM_001127208.2:c.3268_3269del	NP_001120680.1:p.(Lys1090Aspfs*13)	18.71
MM77	TET2	chr4:g.106164001A>T	NM_001127208.2:c.3511A>T	NP_001120680.1:p.(Lys1171*)	14.99
MM70	TET2	chr4:g.106164913C>T	NM_001127208.2:c.3781C>T	NP_001120680.1:p.(Arg1261Cys)	21.46
MM54	TET2	chr4:g.106196748T>A	NM_001127208.2:c.5081T>A	NP_001120680.1:p.(Leu1694*)	22.26
MM29	TET2	chr4:g.106197606C>T	NM_001127208.2:c.5939C>T	NP_001120680.1:p.(Thr1980Ile)	48.39
MM4	TP53	chr17:g.7573973C>A	NM_000546.5:c.1054G>T	NP_000537.3:p.(Asp352Tyr)	81.69
MM6	TP53	chr17:g.7573984A>G	NM_000546.5:c.1043T>C	NP_000537.3:p.(Leu348Ser)	39.23
MM46	TP53	chr17:g.7574018G>A	NM_000546.5:c.1009C>T	NP_000537.3:p.(Arg337Cys)	46.83
MM49	TP53	chr17:g.7574034C>T	NM_000546.5:c.994-1G>A		13.64
MM8	TP53	chr17:g.7576851A>G	NM_000546.5:c.993+2T>C		97.19

MM7	TP53	chr17:g.7576928T>G	NM_000546.5:c.920-2A>C		52.28
MM22	TP53	chr17:g.7577081T>G	NM_000546.5:c.857A>C	NP_000537.3:p.(Glu286Ala)	96.93
MM45	TP53	chr17:g.7577094G>A	NM_000546.5:c.844C>T	NP_000537.3:p.(Arg282Trp)	13.11
MM47	TP53	chr17:g.7577099C>T	NM_000546.5:c.839G>A	NP_000537.3:p.(Arg280Lys)	14.50
MM16	TP53	chr17:g.7577102C>T	NM_000546.5:c.836G>A	NP_000537.3:p.(Gly279Glu)	67.88
MM13	TP53	chr17:g.7577106G>A	NM_000546.5:c.832C>T	NP_000537.3:p.(Pro278Ser)	73.15
MM49	TP53	chr17:g.7577111G>C	NM_000546.5:c.827C>G	NP_000537.3:p.(Ala276Gly)	10.42
MM2	TP53	chr17:g.7577120C>T	NM_000546.5:c.818G>A	NP_000537.3:p.(Arg273His)	65.28
MM45	TP53	chr17:g.7577120C>T	NM_000546.5:c.818G>A	NP_000537.3:p.(Arg273His)	12.42
MM11	TP53	chr17:g.7577139G>A	NM_000546.5:c.799C>T	NP_000537.3:p.(Arg267Trp)	64.06
MM9	TP53	chr17:g.7577556C>G	NM_000546.5:c.725G>C	NP_000537.3:p.(Cys242Ser)	90.38
MM44	TP53	chr17:g.7577577T>C	NM_000546.5:c.704A>G	NP_000537.3:p.(Asn235Ser)	50.67
MM1	TP53	chr17:g.7577580T>C	NM_000546.5:c.701A>G	NP_000537.3:p.(Tyr234Cys)	80.28
MM5	TP53	chr17:g.7578176C>T	NM_000546.5:c.672+1G>A		19.63
MM48	TP53	chr17:g.7578192dup	NM_000546.5:c.657dup	NP_000537.3:p.(Tyr220Leufs*2)	14.81
MM20	TP53	chr17:g.7578265A>G	NM_000546.5:c.584T>C	NP_000537.3:p.(Ile195Thr)	92.83
MM23	TP53	chr17:g.7578271T>C	NM_000546.5:c.578A>G	NP_000537.3:p.(His193Arg)	31.58
MM19	TP53	chr17:g.7578275G>A	NM_000546.5:c.574C>T	NP_000537.3:p.(Gln192*)	88.15
MM21	TP53	chr17:g.7578280G>A	NM_000546.5:c.569C>T	NP_000537.3:p.(Pro190Leu)	13.04
MM3	TP53	chr17:g.7578415A>T	NM_000546.5:c.515T>A	NP_000537.3:p.(Val172Asp)	100.00
MM10	TP53	chr17:g.7578449C>T	NM_000546.5:c.481G>A	NP_000537.3:p.(Ala161Thr)	99.37
MM24	TP53	chr17:g.7578508C>T	NM_000546.5:c.422G>A	NP_000537.3:p.(Cys141Tyr)	66.67
MM18	TP53	chr17:g.7578512_7578519delins20	NM_000546.5:c.411_418delins20	NP_000537.3:p.(Ala138_Thr140delinsThrSerGlyAspArgProAla)	77.82
MM12	TP53	chr17:g.7578554A>T	NM_000546.5:c.376T>A	NP_000537.3:p.(Tyr126Asn)	25.11
MM43	TP53	chr17:g.7578554A>T	NM_000546.5:c.376T>A	NP_000537.3:p.(Tyr126Asn)	13.53
MM17	TP53	chr17:g.7579362A>C	NM_000546.5:c.325T>G	NP_000537.3:p.(Phe109Val)	46.61
MM14	TP53	chr17:g.7579503C>A	NM_000546.5:c.184G>T	NP_000537.3:p.(Glu62*)	90.50
MM15	TP53	chr17:g.7579503C>A	NM_000546.5:c.184G>T	NP_000537.3:p.(Glu62*)	89.50
MM9	TRAF3	chr14:g.103342779C>T	NM_145725.2:c.487C>T	NP_663777.1:p.(Arg163*)	12.50
MM32	TRAF3	chr14:g.103342812G>T	NM_145725.2:c.520G>T	NP_663777.1:p.(Glu174*)	85.02
MM19	TRAF3	chr14:g.103363706C>T	NM_145725.2:c.928C>T	NP_663777.1:p.(Arg310*)	45.03
MM65	TRAF3	chr14:g.103371564C>T	NM_145725.2:c.1150C>T	NP_663777.1:p.(Gln384*)	18.46