

The genomic landscape of malignant peripheral nerve sheath tumors: diverse drivers of Ras pathway activation

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Figure S1: Mutation signatures: in-house samples

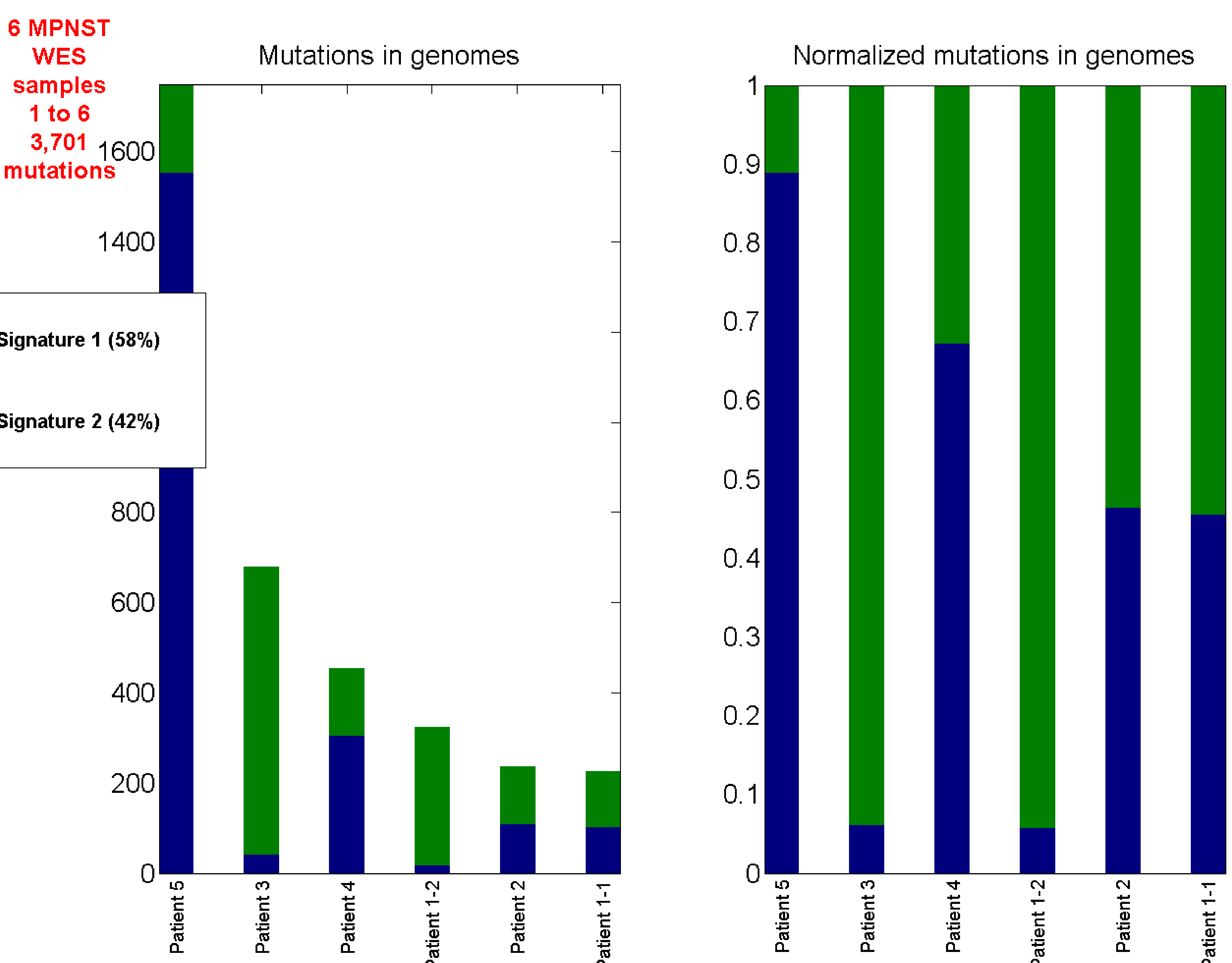
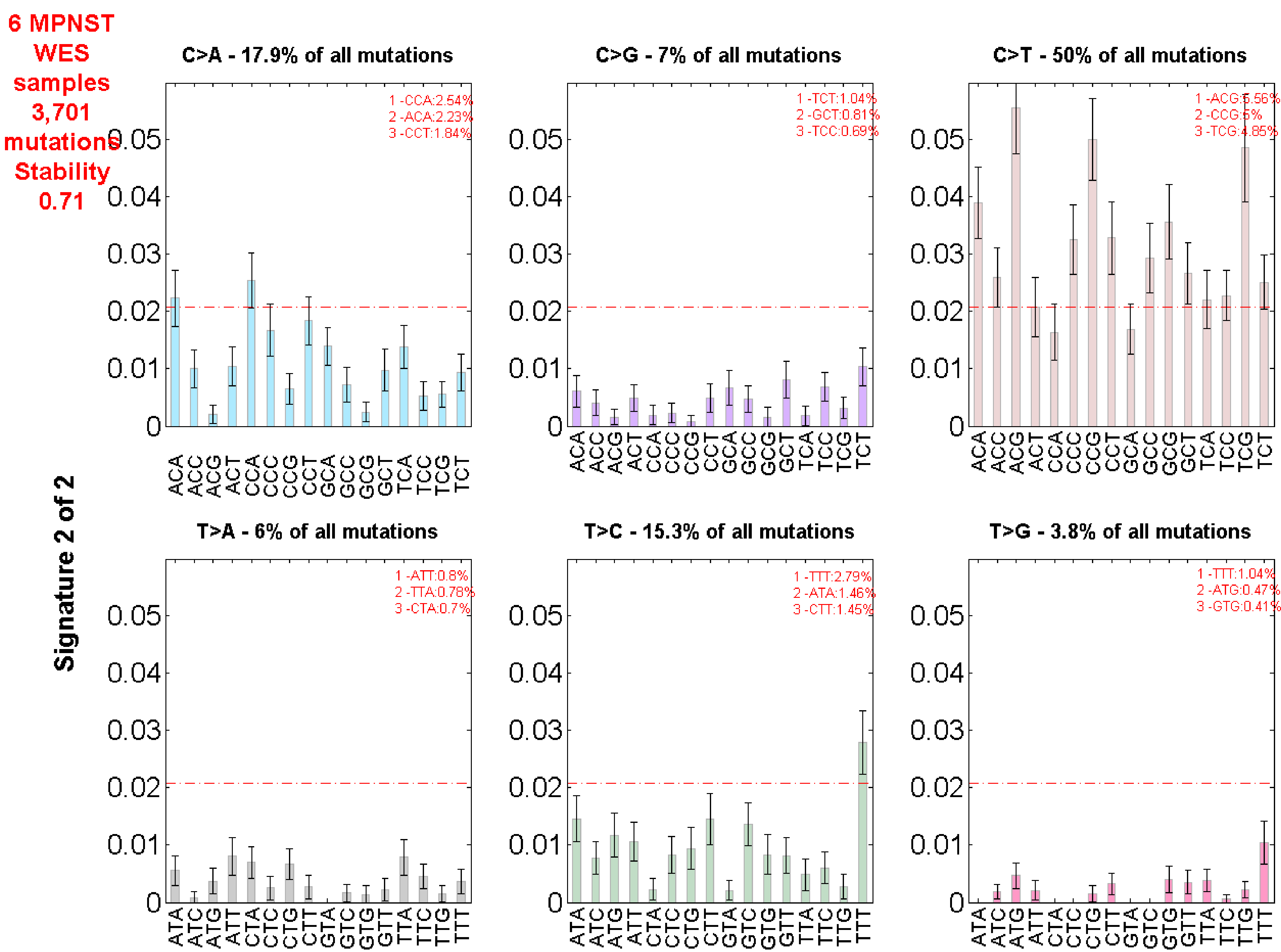
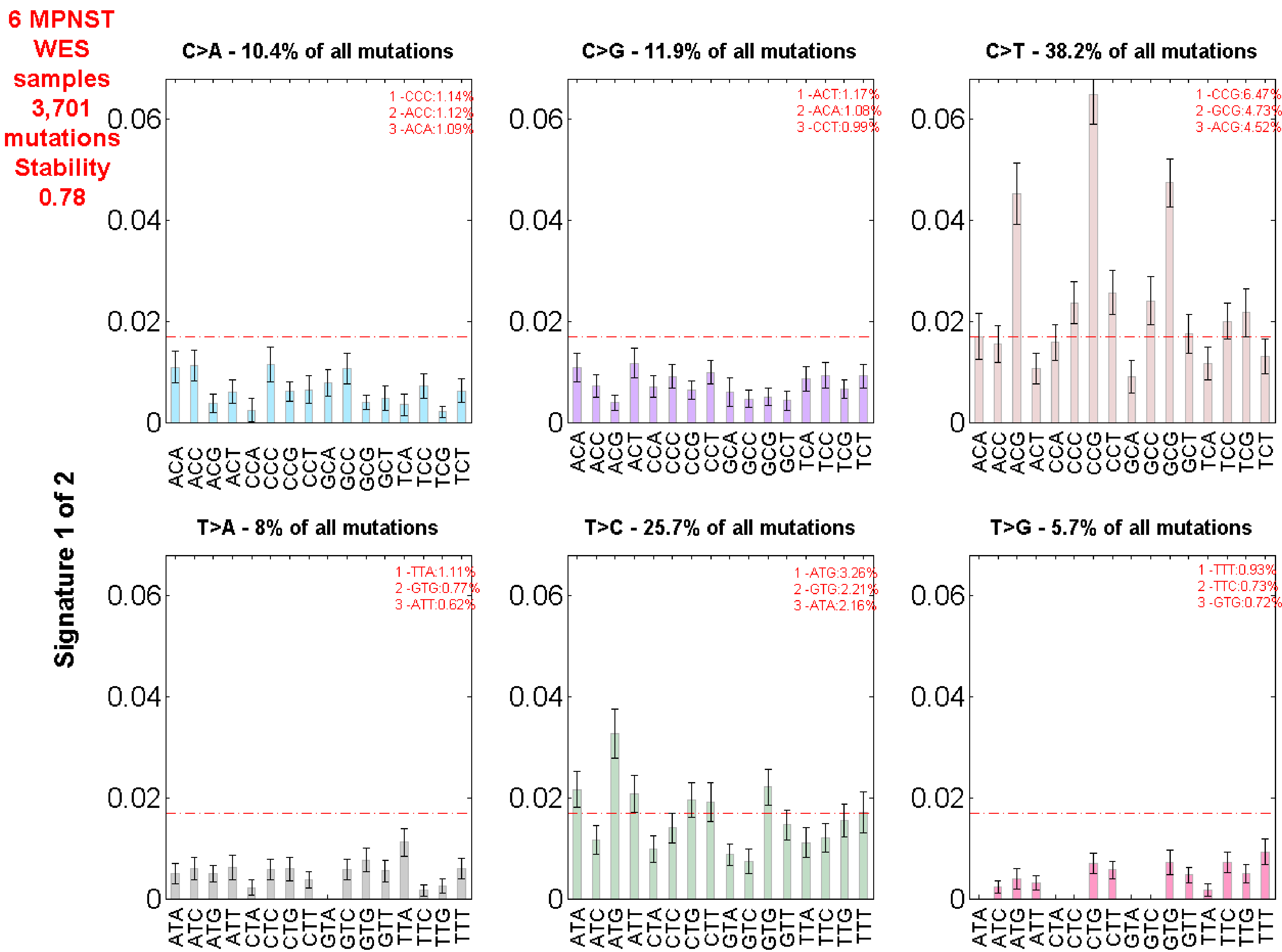


Figure S2: Mutation signatures: TCGA samples

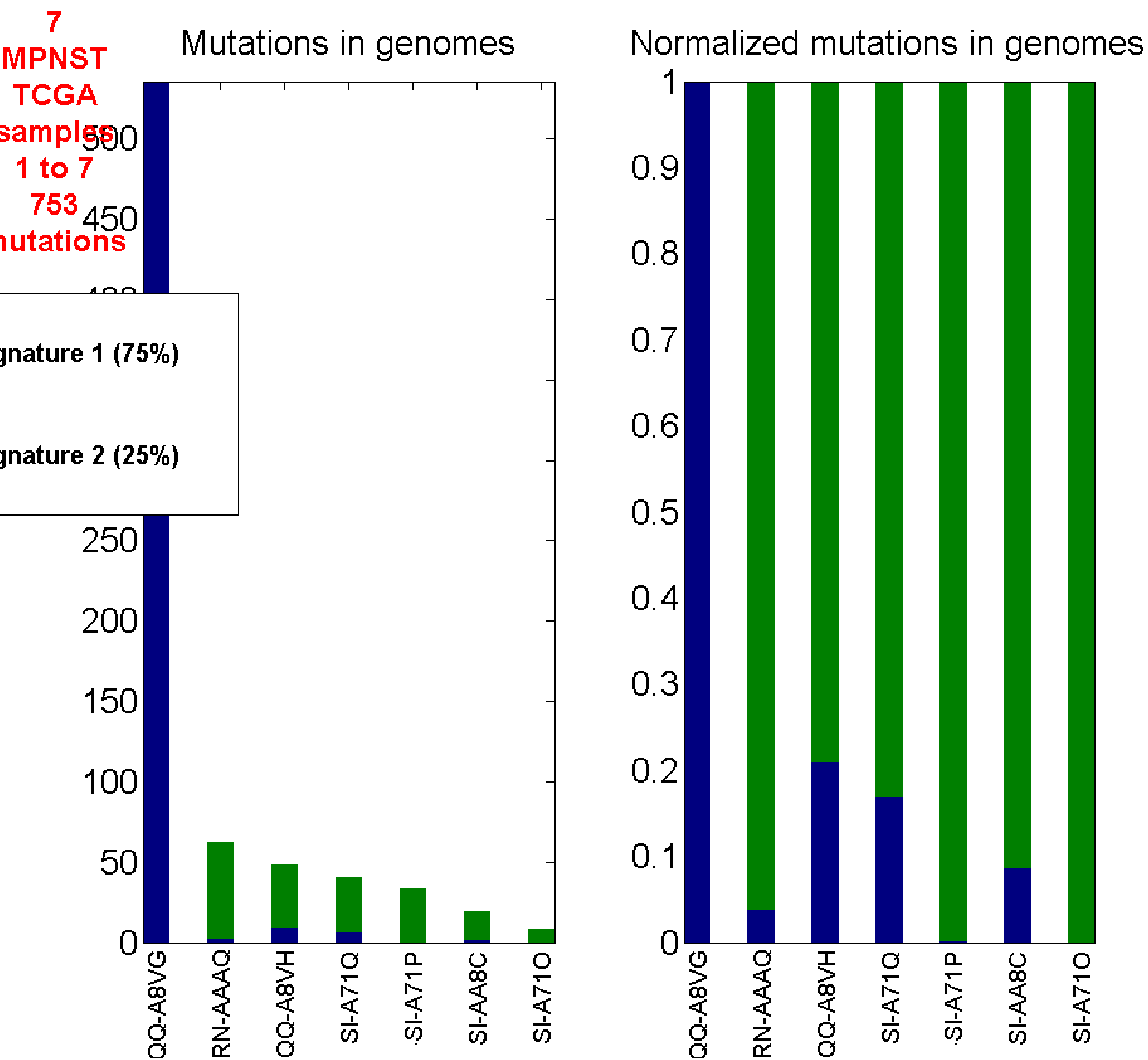
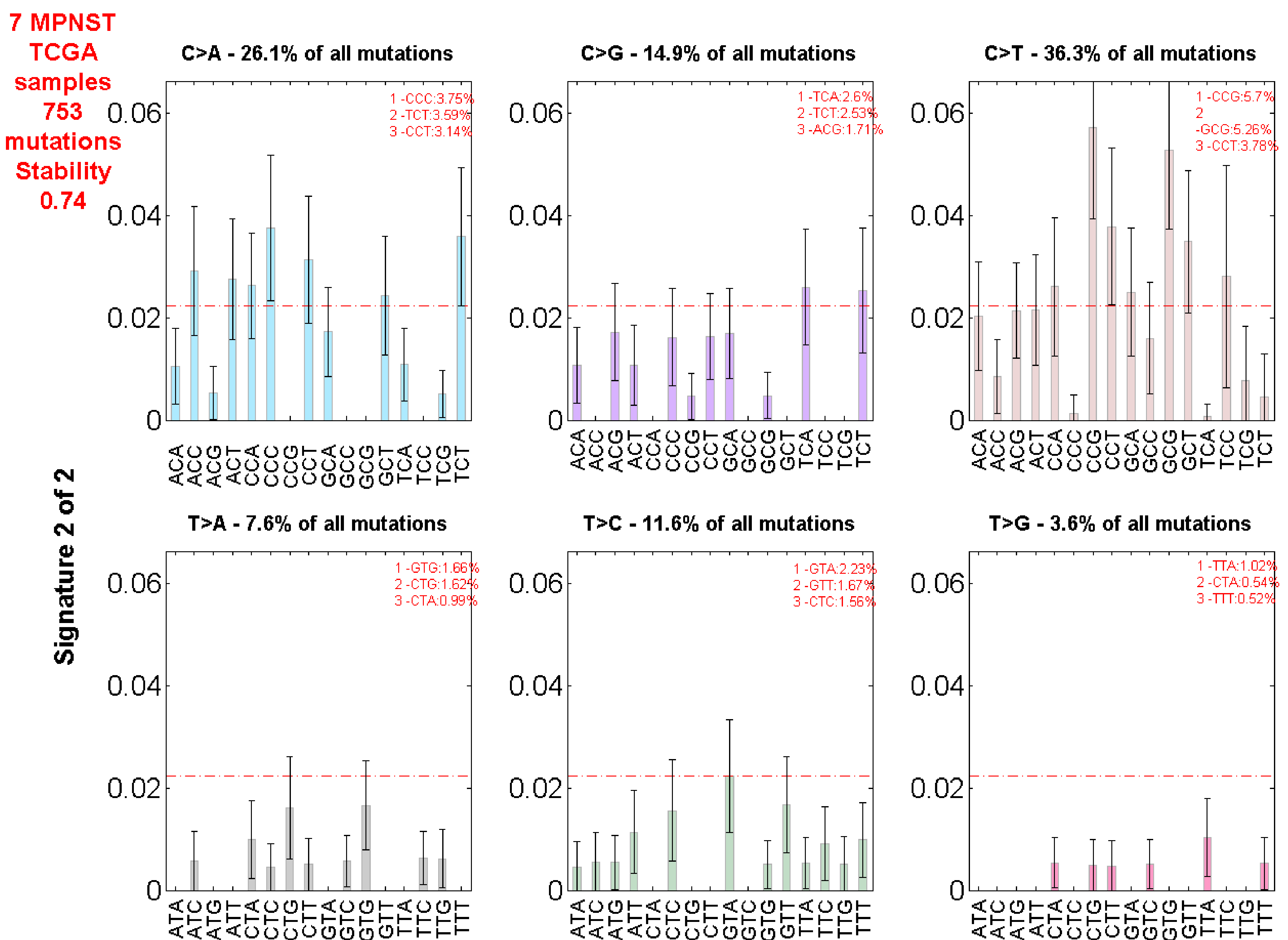
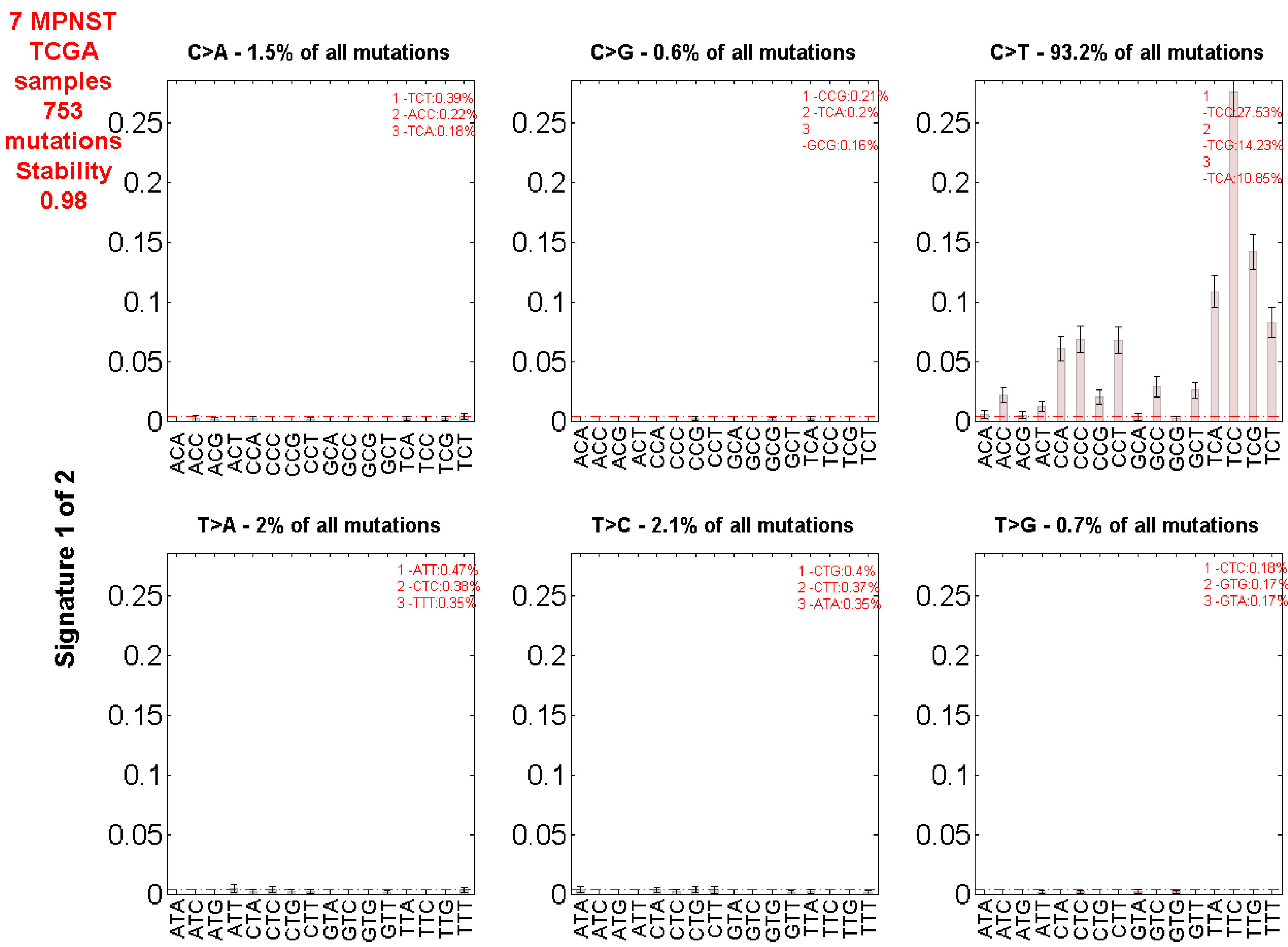


Figure S3: percent of bases with $\geq 10X$ coverage in key genes

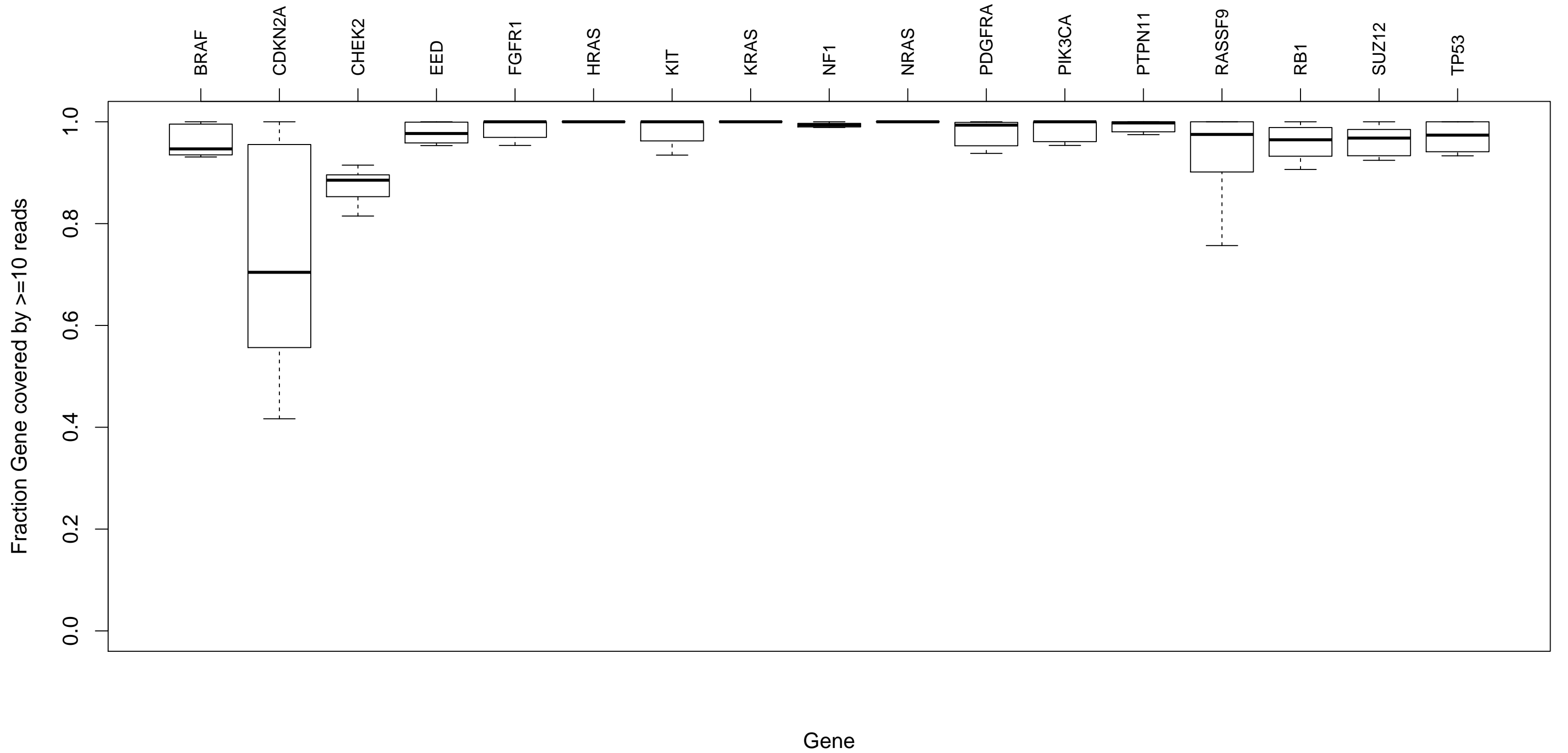


Table S1: Somatic coding variants from in-house samples

Sample	Chromosome	Start_Position	End_Position	Variant_Classification	Variant_Type	Reference_Alts	Tumor_Seq_Allele1	Tumor_Seq_Allele2	Tumor_Breads	Sequence_Joins	Sequence	Annotation_Transcript	Transcript_Start	CDS_Change	Protein_Change	Sequencing_Depth	Alt_Allele_Frequency
SPG17	1	11803001	11803001	nonstopgain	SNP	T		C	patient_1_1	WGS	Illuina	NM_020996	exon14	c.45ASG	p.R162AG	81	0.4815
FCP1	1	12093000	12093000	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_02107360	exon1	c.4351T	p.Y176L	102	0.2022
NBP10	1	14512655	14512655	nonstopgain	SNP	A	G	A	patient_1_1	WGS	Illuina	NM_02109303	exon7	c.4551T	p.R151L	217	0.0504
NBP10	1	14512666	14512666	nonstopgain	SNP	A	G	A	patient_1_1	WGS	Illuina	NM_02109303	exon7	c.4551G	p.R151L	529	0.0737
ANKK1	1	15610077	15610077	nonstopgain	SNP	A	G	A	patient_1_1	WGS	Illuina	NM_02107070	exon9	c.4021T	p.R133L	203	0.3044
ANKK1	1	6974588	6974588	nonstopgain	SNP	T	G	G	patient_1_1	WGS	Illuina	NM_049111	exon5	c.4213G	p.W707A	267	0.2076
ZRANK1	1	11603705	11603705	stopgain	SNP	T	G	G	patient_1_1	WGS	Illuina	NM_02109303	exon7	c.4545T	p.R151L	207	0.0475
HPO1	1	13814505	13814505	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_021156	exon2	c.4017A	p.G546E	137	0.0457
HLA-DQA1	1	13814505	13814505	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_021156	exon2	c.4017A	p.G546E	73	0.1844
POAO	1	12281818	12281818	nonstopgain	SNP	G	C	C	patient_1_1	WGS	Illuina	NM_050810	exon16	c.6131AC	p.D454H	506	0.2075
ADP1	1	14310176	14310176	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_021242	exon6	c.61077A	p.G339S	126	0.2222
H	1	16479229	16479229	nonstopgain	SNP	T	G	G	patient_1_1	WGS	Illuina	NM_021242	exon6	c.7246AC	p.R244L	103	0.0616
ICE2	1	18397379	18397379	stopgain	SNP	A	G	G	patient_1_1	WGS	Illuina	NM_048493	exon2	c.1031A	p.P165F	78	0.5585
ACT3B	1	44447878	44447878	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_088113	exon4	c.4072A	p.R133L	108	0.058
LAMTOR1	1	30801020	30801020	stopgain	SNP	T	G	G	patient_1_1	WGS	Illuina	NM_021290	exon7	c.4306G	p.L162L	95	0.5503
HLA-DQA1	1	30801020	30801020	stopgain	SNP	T	G	G	patient_1_1	WGS	Illuina	NM_021290	exon7	c.4306G	p.L162L	10	0.4239
SDHA	1	238696	238696	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_041488	exon30	c.6214AA	p.E472E	211	0.0616
SDHA	1	238696	238696	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_041488	exon30	c.6214AA	p.E472E	268	0.0616
PERF8	1	13642978	13642978	nonstopgain	SNP	G	C	C	patient_1_1	WGS	Illuina	NM_021845	exon1	c.629C	p.R131P	192	0.2004
NM2303	1	10021340	10021340	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_021846	exon1	c.6292A	p.G288R	168	0.4288
NET	1	11642538	11642538	nonstopgain	SNP	T	C	C	patient_1_1	WGS	Illuina	NM_02127200	exon1	c.7128AC	p.T309T	267	0.4607
SM	1	15506440	15506440	nonstopgain	SNP	G	C	C	patient_1_1	WGS	Illuina	NM_020191	exon1	c.4377G	p.S538L	210	0.2143
AT7B282	1	20025009	20025009	nonstopgain	SNP	G	C	C	patient_1_1	WGS	Illuina	NM_020191	exon1	c.6505C	p.R155L	105	0.4
TEX1	1	3064400	3064400	nonstopgain	SNP	C	G	G	patient_1_1	WGS	Illuina	NM_021127	exon1	c.62821C	p.R271P	88	0.3636
TEX1	1	3064400	3064400	nonstopgain	SNP	C	G	G	patient_1_1	WGS	Illuina	NM_021127	exon1	c.62821C	p.R271P	109	0.3636
HMS2	1	65026745	65026745	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_01100317	exon19	c.6123AA	p.R3279H	319	0.2124
PRKCI1	1	11041270	11041270	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_021751	exon12	c.6399AA	p.G331E	299	0.448
PRKCI1	1	11041270	11041270	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_021751	exon12	c.6399AA	p.G331E	119	0.0604
MUC3B	1	1362105	1362105	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_020456	exon1	c.4555A	p.T520N	84	0.1786
PRKCI1	1	1114887	1114887	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_020996	exon7	c.6131AC	p.R151L	93	0.828
CDGA4	1	626320	626320	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_02037329	exon6	c.6124T	p.R413I	110	0.818
CDY1	1	5616818	5616818	nonstopgain	SNP	C	T	T	patient_1_1	WGS	Illuina	NM_01004165	exon1	c.6124T	p.R413I	110	0.818
MAB11	1	6171215	6171215	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_011405	exon7	c.620T	p.R240R	69	0.0725
SLC24A5	1	6171215	6171215	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_011405	exon7	c.620T	p.R240R	69	0.0725
RAGAP1	1	5018793	5018793	nonstopgain	SNP	G	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6132T	p.P585R	87	0.0909
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
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RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1	5018844	5018844	nonstopgain	SNP	C	A	A	patient_1_1	WGS	Illuina	NM_01126204	exon15	c.6181AA	p.A641T	89	0.0674
RAGAP1	1</																

NR02	ha3705	20	331899	331899	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_024958	exon4	c.2235A	p.A377	106	0.066
NR03	ha3705	20	332099	332099	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_024958	exon4	c.2239A	p.A379	81	0.073
NR04	ha3705	20	2136760	2136760	nonredundant_SNV	SNP	C	C	A	patient 3	WGS	Illumina	NM_022055	exon29	c.2724AA	p.P955A	63	0.0794
ACTR5	ha3705	20	3737205	3737205	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_022055	exon29	c.2733AA	p.G450	30	0.1389
COX4	ha3705	21	6026911	6026911	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_021794	exon13	c.1205AA	p.G405A	67	0.07
LAMAY	ha3705	20	6082554	6082554	splitting	SNP	T	C	C	patient 3	WGS	Illumina	0	0	0	0	55	0.1061
KCNK2	ha3705	20	6201505	6201505	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_022077	exon15	c.1511TT	p.P545L	47	0.0636
MCR1	ha3705	21	3774320	3774320	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_00114602	exon15	c.12913A	p.V303I	123	0.065
KCNK4	ha3705	21	3781970	3781970	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_00114602	exon15	c.12927T	p.V307I	104	0.0714
ANG1	ha3705	21	4364912	4364912	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_004915	exon2	c.101AA	p.R30A	123	0.0488
CSGAL1	ha3705	21	4364918	4364918	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_004915	exon2	c.101AA	p.R30A	107	0.0487
MMP1	ha3705	22	2045608	2045608	nonredundant_SNV	SNP	C	C	G	patient 3	WGS	Illumina	NM_015617	exon1	c.1464AA	p.L464G	12	0.0667
MMP1	ha3705	22	2045708	2045708	nonredundant_SNV	SNP	C	C	G	patient 3	WGS	Illumina	NM_015617	exon1	c.1464AA	p.L464G	115	0.0261
MMP1	ha3705	22	2045824	2045824	nonredundant_SNV	SNP	C	C	G	patient 3	WGS	Illumina	NM_015617	exon1	c.1462TT	p.R462A	102	0.1313
ICR	ha3705	22	2361251	2361251	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_045927	exon1	c.1027TT	p.R303A	124	0.1375
GAB1	ha3705	22	2454307	2454307	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_045927	exon1	c.1044TT	p.R312A	124	0.0792
CH22	ha3705	22	2901340	2901340	nonredundant_SNV	SNP	T	C	C	patient 3	WGS	Illumina	NM_01001395	exon12	c.1214AG	p.R416E	129	0.0465
RS26	ha3705	22	3852429	3852429	nonredundant_SNV	SNP	C	C	A	patient 3	WGS	Illumina	NM_001064	exon1	c.1318TT	p.R466A	129	0.0465
CRK3	ha3705	X	1860039	1860039	nonredundant_SNV	SNP	C	C	A	patient 3	WGS	Illumina	NM_001319	exon2	c.1632AA	p.S164R	138	0.0507
DN2	ha3705	X	3124504	3124504	nonredundant_SNV	SNP	C	C	A	patient 3	WGS	Illumina	NM_000608	exon1	c.1305AA	p.L305A	84	0.0405
FRS1	ha3705	X	3713579	3713579	nonredundant_SNV	SNP	C	C	G	patient 3	WGS	Illumina	NM_01142395	exon4	c.C82G	p.P121H	113	0.0708
SEC2C	ha3705	X	5328394	5328394	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_0111225	exon4	c.1318TT	p.S450F	65	0.0277
LBR1	ha3705	X	7021726	7021726	nonredundant_SNV	SNP	C	C	A	patient 3	WGS	Illumina	NM_002020	exon4	c.1202AA	p.P402R	66	0.0662
PHAL	ha3705	X	7386821	7386821	splitting	SNP	C	C	T	patient 3	WGS	Illumina	0	0	0	0	102	0.0686
STYX4	ha3705	X	7728006	7728006	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_000002	exon16	c.1618AA	p.V540A	120	0.0212
AMOT	ha3705	X	11202429	11202429	nonredundant_SNV	SNP	C	C	G	patient 3	WGS	Illumina	NM_00113490	exon9	c.1222CC	p.R760H	46	0.087
SGP1	ha3705	X	12067826	12067826	nonredundant_SNV	SNP	G	G	A	patient 3	WGS	Illumina	NM_00117095	exon10	c.1296AA	p.S1230G	38	0.4211
ACAP1	ha3705	1	1212103	1212103	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_000449	exon18	c.1318AT	p.R540W	44	0.1136
PMAF1	ha3705	1	1281578	1281578	splitting	SNP	A	A	A	patient 4	WGS	Illumina	NM_001201	exon4	c.A555T	p.R44K	64	0.0735
PMAF4	ha3705	1	1291955	1291955	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_001091	exon4	c.1116TA	p.R48A	118	0.0701
STGALAC1	ha3705	1	1677764	1677764	nonredundant_SNV	SNP	C	C	T	patient 4	WGS	Illumina	NM_002099	exon2	c.176C	p.V51A	142	0.2234
GMP	ha3705	1	1895903	1895903	splitting	SNP	A	A	G	patient 4	WGS	Illumina	NM_01009613	exon1	c.1021TA	p.S425	196	0.0918
STGALAC1	ha3705	1	18176763	18176763	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_001133068	exon1	c.1222AA	p.R397G	271	0.0643
MHP10	ha3705	1	18159449	18159449	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_00139703	exon1	c.156AC	p.E232	1656	0.0187
MHP10	ha3705	1	18159450	18159450	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_00139703	exon1	c.156AC	p.E232	1656	0.0187
MHP10	ha3705	1	18158664	18158664	duplication_SNV	SNP	G	G	T	patient 4	WGS	Illumina	NM_00139703	exon4	c.1035A2T	p.G154R	709	0.0296
MHP14	ha3705	1	14800910	14800910	splitting	SNP	G	G	A	patient 4	WGS	Illumina	NM_001588	exon6	c.1379TT	p.S399Y	343	0.0091
HMN1	ha3705	1	1521878	1521878	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_002099	exon1	c.1051AA	p.R351W	272	0.0722
NOF2	ha3705	1	16112245	16112245	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_004505	exon2	c.107CC	p.Y30L	167	0.1719
DTN2	ha3705	1	20024142	20024142	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_000701	exon2	c.1227TA	p.R382A	104	0.071
CR7	ha3705	1	20778751	20778751	duplication_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000651	exon1	c.1580AT	p.R324K	804	0.0691
TRAF3IP3	ha3705	1	2098471	2098471	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_001201	exon4	c.1781CT	p.R437T	84	0.0717
CRS4	ha3705	1	3941480	3941480	splitting	SNP	G	G	A	patient 4	WGS	Illumina	NM_00109045	exon6	c.1702T	p.F214F	151	0.2514
SIB	ha3705	1	4121504	4121504	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000608	exon1	c.1612AT	p.R312H	113	0.071
FRS2	ha3705	2	24062243	24062243	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_00108035	exon1	c.1317T	p.R15W	150	0.0687
SH3AC1	ha3705	2	4777039	4777039	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_002078	exon6	c.1022A	p.P202H	146	0.2003
SH3AC2	ha3705	2	4786146	4786146	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_002078	exon1	c.1211AA	p.R211A	272	0.0682
CLTND2	ha3705	3	18202145	18202145	nonredundant_SNV	SNP	T	C	C	patient 4	WGS	Illumina	NM_002111	exon13	c.1720CT	p.R767I	105	0.2762
MANE	ha3705	3	18426193	18426193	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000002	exon1	c.1441G	p.R441G	62	0.216
CRPAK	ha3705	4	1380107	1380107	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_017918	exon1	c.1078AA	p.R246G	87	0.1264
DN2	ha3705	4	1843917	1843917	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000608	exon1	c.1318TT	p.R466A	87	0.0465
UGT3A1	ha3705	4	7006424	7006424	nonredundant_SNV	SNP	T	C	C	patient 4	WGS	Illumina	NM_001073	exon6	c.A132AG	p.R422V	430	0.0214
AMER1B	ha3705	5	1064784	1064784	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_00104480	exon6	c.1030AA	p.R312A	126	0.0713
DN2	ha3705	5	14005007	14005007	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000608	exon1	c.1318AA	p.R466A	112	0.0682
DN2	ha3705	5	14005026	14005026	splitting	SNP	G	G	A	patient 4	WGS	Illumina	NM_0012449	exon1	c.1304AT	p.R338H	142	0.0775
PCDH13	ha3705	5	14008444	14008444	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_000812	exon4	c.1474TC	p.R474G	104	0.0745
HLA-DMS	ha3705	6	1247913	1247913	nonredundant_SNV	SNP	T	T	C	patient 4	WGS	Illumina	NM_001225	exon1	c.108TT	p.G30V	441	0.0522
HLA-DMS	ha3705	6	1831111	1831111	splitting	SNP	C	C	G	patient 4	WGS	Illumina	0	0	0	0	0	0.0445
PRF4	ha3705	6	14982138	14982138	splitting	SNP	A	A	A	patient 4	WGS	Illumina	NM_0129120	exon3	c.1768AG	p.P54P	250	0.116
ADAM10	ha3705	6	1542819	1542819	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_00104480	exon3	c.1498TT	p.R498T	263	0.2124
SYT11	ha3705	6	7564121	7564121	nonredundant_SNV	SNP	T	C	C	patient 4	WGS	Illumina	NM_000488	exon5	c.A932G	p.Y131C	68	0.2794
MUC2	ha3705	7	10061769	10061769	splitting	SNP	C	C	A	patient 4	WGS	Illumina	NM_00116462	exon2	c.C995T	p.S120L	115	0.3636
MUC2	ha3705	7	10061800	10061800	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_00116462	exon2	c.C995A	p.S120L	105	0.0727
TEC	ha3705	7	1155195	1155195	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_002392	exon7	c.1055G	p.T392G	185	0.4757
TRAF6	ha3705	7	1286160	1286160	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_002392	exon12	c.1041AA	p.R342A	107	0.071
MLL3	ha3705	7	15512168	15512168	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_017006	exon6	c.1119TT	p.R302L	744	0.0403
MMP1	ha3705	7	1071725	1071725	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_001090	exon13	c.1379TT	p.R379L	410	0.071
HALS	ha3705	9	1957888	1957888	nonredundant_SNV	SNP	G	G	A	patient 4	WGS	Illumina	NM_012745	exon16	c.1317TG	p.R262H	234	0.0556
FAM78A	ha3705	9	4324051	4324051	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_00145145	exon1	c.101AA	p.R312H	107	0.0897
DMBP	ha3705	9	12441035	12441035	splitting	SNP	C	C	T	patient 4	WGS	Illumina	NM_000608	exon1	c.1318TT	p.R466L	74	0.1116
NEGR1	ha3705	9	12620124	12620124	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_00100068	exon13	c.1240AT	p.S284Y	115	0.0609
TCR2	ha3705	9	13046211	13046211	nonredundant_SNV	SNP	C	C	A	patient 4	WGS	Illumina	NM_001466	exon1	c.A508T	p.R508T	104	0.24
TUBB1	ha3705	10	99378	99378	splitting	SNP	C	C	A	patient 4	WGS	Illumina	NM_017787	exon1	c.C34T	p.D118D	170	0.171
FRS3A	ha3705																	

DDP	HA3765	4	8815050	8815050	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_014208	exon5	c.17738C	p.S992S	167	0.0509
DNCC2	HA3765	4	8810271	8810271	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_014208	exon5	c.16248A	p.T9487T	167	0.2305
ARCE1	HA3765	4	14601139	14601139	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01404876	exon1	c.1799C	p.D338D	135	0.0815
PT112	HA3765	4	12679941	12679941	non synonymous_SNP	DEL	T	T	C	patient 5	WGS	Illumina	NM_0140564	exon2	c.1310D	p.L310V	100	0.0488
GDR	HA3765	4	11709941	11709941	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01166600	exon1	c.171G	p.F7V	118	0.1014
ZORHC11	HA3765	5	841742	841742	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_024785	exon2	c.10256A	p.R209H	61	0.1148
CSAR2	HA3765	5	3713883	3713883	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_012071	exon2	c.4330G	p.R1330W	50	0.0802
CSAR2	HA3765	5	3721316	3721316	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_023071	exon6	c.12456G	p.R209H	159	0.0881
ITP11	HA3765	5	7281513	7281513	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_012117	exon1	c.1634G	p.R537V	91	0.1024
PM046	HA3765	5	12215183	12215183	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01138239	exon7	c.15100T	p.G203C	93	0.1319
PT130	HA3765	5	12410413	12410413	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_012118	exon1	c.12138A	p.R413G	151	0.0780
PCDH8	HA3765	5	14048133	14048133	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_0158917	exon7	c.16180T	p.P540F	71	0.1028
PCDH8	HA3765	5	14050134	14050134	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_018394	exon1	c.12314A	p.A232E	84	0.1111
TCF12	HA3765	5	14548613	14548613	non synonymous_SNP	DEL	C	C	A	patient 5	WGS	Illumina	NM_012072	exon4	c.618A	p.R464H	80	0.2027
DDA1	HA3765	5	17083795	17083795	synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_014123	exon1	c.1066C	p.R322T	29	0.1724
CSAR2	HA3765	5	17007930	17007930	synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_014123	exon1	c.1066C	p.R322T	29	0.1724
LOC53423	HA3765	6	27914971	27914971	splicing	SNP	A	A	G	patient 5	WGS	Illumina		0	0	0	144	0.1042
HLA-A	HA3765	6	29910301	29910301	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002136	exon1	p.A5A		88	0.2100
HLA-A	HA3765	6	29910340	29910340	non synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_012116	exon1	c.1A10G	p.M39V	185	0.0599
HLA-A	HA3765	6	29910359	29910359	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_012116	exon1	c.1088T	p.R67K	86	0.2107
HSP1A1	HA3765	6	11764543	11764543	synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_005440	exon1	c.14920G	p.V640V	101	0.0792
HFM2	HA3765	6	13180320	13180320	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002070	exon7	c.10722A	p.G242D	81	0.1481
HLA-DQB1	HA3765	6	32487172	32487172	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002125	exon3	c.6807A	p.V207V	208	0.0523
HLA-DQB1	HA3765	6	32487174	32487174	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002125	exon3	c.6825C	p.V207V	208	0.0805
HLA-DQB1	HA3765	6	32487028	32487028	synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_002125	exon3	c.6791C	p.V207V	183	0.0803
HLA-DRE1	HA3765	6	32548812	32548812	splicing	SNP	T	T	C	patient 5	WGS	Illumina		0	0	0	287	0.1311
HLA-DRE1	HA3765	6	32548813	32548813	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina		0	0	0	287	0.1311
HLA-DRE1	HA3765	6	32548814	32548814	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_002126	exon4	c.1479C	p.G233S	99	0.2101
HLA-DRE1	HA3765	6	32629915	32629915	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_0124961	exon3	c.1049C	p.G317A	40	0.2261
HLA-DRE1	HA3765	6	32629916	32629916	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_0124961	exon3	c.1020C	p.G317K	63	0.2261
HLA-DRE1	HA3765	6	32713788	32713788	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002006	exon3	c.1753G	p.R244E	179	0.0509
HLA-DRE1	HA3765	6	32713793	32713793	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_002006	exon3	c.1757G	p.R244E	185	0.0505
HLA-DRE1	HA3765	6	32713828	32713828	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_002006	exon3	c.1650A	p.R188E	189	0.0505
HLA-DRE1	HA3765	6	41713064	41713064	non synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_023030	exon1	c.1932T	p.S131F	67	0.0806
EDGAR	HA3765	6	47670906	47670906	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_012120	exon1	c.1459G	p.R746A	176	0.0505
KAL1A020	HA3765	6	8484494	8484494	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_014895	exon15	c.14977G	p.R539E	119	0.1092
FUS1	HA3765	6	8484545	8484545	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_014895	exon15	c.1281T	p.R49E	127	0.1092
MTHFD1L	HA3765	6	11515586	11515586	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01242787	exon5	c.1281G	p.S88C	117	0.0509
TCF12	HA3765	6	16701954	16701954	non synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_01145121	exon5	c.1028A	p.R244H	99	0.0808
TCF12	HA3765	6	17061228	17061228	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01145121	exon5	c.11818A	p.R760V	100	0.0808
FM2	HA3765	7	6026152	6026152	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_000516	exon1	c.14384T	p.M422L	182	0.0709
FMR3	HA3765	7	3102391	3102391	non synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_002710	exon4	c.1056A	p.R309H	184	0.0509
AMPH	HA3765	7	3805819	3805819	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_005181	exon8	c.1420T	p.R207I	185	0.0509
PCOL1	HA3765	7	7412490	7412490	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_012124	exon1	c.1028A	p.R244H	73	0.1092
GPI2	HA3765	7	7412490	7412490	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_012399	exon9	c.1281T	p.D240D	104	0.1731
PCYF2	HA3765	7	9935512	9935512	non synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_000705	exon12	c.11138A	p.R471I	184	0.0505
AZP1	HA3765	7	9957386	9957386	non synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_011810	exon1	c.150T	p.F20L	145	0.0481
MUC12	HA3765	7	10067101	10067101	non synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_01164462	exon1	c.1318A	p.R317L	141	0.1141
MUC12	HA3765	7	10064675	10064675	synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon2	c.10911A	p.R327P	638	0.0508
MUC12	HA3765	7	10064682	10064682	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon2	c.13181A	p.R309K	638	0.0508
MUC12	HA3765	7	10067738	10067738	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12180T	p.R412T	212	0.0849
MUC12	HA3765	7	10067738	10067738	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12181A	p.R412T	212	0.0849
MUC12	HA3765	7	10067738	10067738	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12182A	p.R412A	210	0.0478
MUC12	HA3765	7	10067740	10067740	non synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.10271A	p.R404S	212	0.0835
MUC12	HA3765	7	10067740	10067740	non synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.10272A	p.R404S	212	0.0835
MUC12	HA3765	7	10067745	10067745	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01164462	exon3	c.1273C	p.P90P	260	0.0962
MUC12	HA3765	7	10067745	10067745	synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01164462	exon3	c.10271A	p.R404S	212	0.0835
MUC12	HA3765	7	10067747	10067747	synonymous_SNP	SNP	G	G	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.10270T	p.R390Q	240	0.0715
MUC12	HA3765	7	10067750	10067750	non synonymous_SNP	SNP	T	T	C	patient 5	WGS	Illumina	NM_01164462	exon3	c.1493G	p.R705V	214	0.0835
MUC12	HA3765	7	10067756	10067756	synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_01164462	exon3	c.14289G	p.S981S	217	0.0886
MUC12	HA3765	7	10067756	10067756	synonymous_SNP	SNP	A	A	G	patient 5	WGS	Illumina	NM_01164462	exon3	c.14290G	p.S981S	217	0.0886
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12911T	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12912A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12913A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12914A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12915A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12916A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12917A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12918A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12919A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12920A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12921A	p.P78L	215	0.1036
MUC12	HA3765	7	10067759	10067759	non synonymous_SNP	SNP	C	C	A	patient 5	WGS	Illumina	NM_01164462	exon3	c.12922A	p.P78L	215	0.1036
MUC12	HA376																	

Table S2: mutational details of recurrently mutated genes in study cohort

Sample ID:	Tumor Type	<i>NF1</i>	<i>SUZ12</i>	<i>EED</i>	<i>TP53</i>	<i>CDKN2A</i>
Patient1_1	MPNST	I1910fs*; het loss	E610X; het loss	het loss	het loss	
Patient1_2	Atypical Neurofibroma	I1910fs*; splice site				
Patient2	MPNST	L847P*; het loss			het loss	
Patient3	MPNST	M1L; het loss*	E324X; het loss*			het loss
Patient4	MPNST	Y489C; het loss	het loss			hom loss
Patient5	MPNST	clinical NF1		I290fs		
TCGA-QQ-A8VG	MPNST	clinical NF1; R1362X				het loss
TCGA-QQ-A8VH	MPNST	clinical NF1; splice site			Y163N	
TCGA-RN-AAAQ	MPNST	clinical NF1				hom loss
TCGA-SI-A71O	MPNST			het loss	hom loss	
TCGA-SI-A71P	MPNST	clinical NF1; P504fs				het loss
TCGA-SI-A71Q	MPNST	clinical NF1; het loss	het loss	het loss	het loss	het loss
TCGA-SI-AA8C	MPNST	clinical NF1; het loss	L574fs; het loss		het loss	hom loss

*=germline finding

het loss= predicted copy number of 1 from copy number variation analysis; hom loss = predicted copy number of 0 from copy number analysis

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Table S3: significant copy number variations as detected from whole exome sequencing analysis

Sample:	Chromosome	Start	End	CN predicted	ProbCall	Relevant Gene(s)
patient 1_1	4	52709318	57976527	9	1	<i>KIT, PDGFRA</i>
patient 1_1	11	73101730	134605931	1	0.962366951	<i>EED</i>
patient 1_1	17	2138984	18110326	1	0.990206224	<i>TP53</i>
patient 1_1	17	26898435	36104885	1	0.989892387	<i>NF1, SUZ12</i>
patient 2	17	2568645	8020315	1	0.969737767	<i>TP53</i>
patient 2	17	28990577	29764530	1	0.603010314	<i>NF1</i>
patient 3	9	21802701	23762254	1	0.998832018	<i>CDKN2A</i>
patient 3*	17	28999025	30380375	1	0.904650463	<i>NF1, SUZ12</i>
patient 4	9	21930980	22452207	0	0.999996462	<i>CDKN2A</i>
patient 4	17	29508703	34341463	1	0.944552336	<i>NF1, SUZ12</i>

*germline finding

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