

**Table S2. Exome sequencing of MSS tumor outlier.**

Approved Name	Distinct Coverage	Distinct Pairs	Chrom	Position	Base From	BaseTo	Transcript	Tx Change Start	Tx Base From	Tx BaseTo	Amino Start	AA From	AA To
acetylcholinesterase (Yt blood group)	78	15	chr7	100329383	T	C	CCDS5710.1	407	A	G	136	Y	C
apoptotic chromatin condensation inducer 1	120	14	chr14	22598405	C	A	CCDS9587.1	3818	G	T	1273	R	L
angiotensin II receptor; type 1	63	7	chr3	149942011	C	T	CCDS3137.1	499	C	T	167	R	X
adenomatous polyposis coli	40	19	chr5	112203475	C	T	CCDS4107.1	4285	C	T	1429	Q	X
armadillo repeat containing 9	17	6	chr2	231933784	C	A	ENST00000359743	1139	C	A	380	T	N
ATPase type 13A2	22	6	chr1	17185183	T	C	NM_001141974	3361	A	G	1121	T	A
budding uninhibited by benzimidazoles 1 homolog beta (yeast)	44	12	chr15	38285869	G	T	CCDS10053.1	1927	G	T	643	D	Y
chromosome 10 open reading frame 90	52	7	chr10	128183323	G	A	CCDS31310.1	436	C	T	146	R	C
chromosome 14 open reading frame 180	54	9	chr14	104125673	G	A	CCDS32166.1	259	G	A	87	A	T
chromosome 15 open reading frame 32	32	6	chr15	90844621	T	C	CCDS10373.1	524	T	C	175	I	T
chromosome 6 open reading frame 97	32	6	chr6	151900885	C	T	CCDS43515.1	199	C	T	67	R	X
DAVID_calcium channel: voltage-dependent: N type: alpha 1B subunit	28	5	chr9	140074009	C	T	NM_000718	4667	C	T	1556	A	V
CD8a molecule	28	10	chr2	86871096	G	A	CCDS1992.1	269	C	T	90	S	L
claudin 3	39	13	chr7	72821768	G	A	CCDS5559.1	548	C	T	183	S	L
CAP-GLY domain containing linker protein 1	66	8	chr12	121405632	G	A	CCDS9232.1	1186	C	T	396	R	W
CKLF-like MARVEL transmembrane domain containing 4	50	16	chr16	65214855	C	T	CCDS10817.1	415	G	A	139	V	I
cannabinoid receptor 2 (macrophage)	54	6	chr1	24073790	C	T	CCDS245.1	905	G	A	302	R	Q
cyclin N-terminal domain containing 1	33	12	chr17	38209786	C	G	CCDS11440.1	263	C	G	88	A	G
DAVID_cleavage and polyadenylation specific factor 4-like	22	8	chr17	68769483	C	A	NM_001129885	70	G	T	24	G	C
discs; large homolog 3 (Drosophila)	31	5	chrX	69582080	G	A	CCDS14403.1	304	G	A	102	G	S
DAVID_dopamine receptor D5 pseudogene 2	30	5	chr1	147169850	G	A	ENST00000331689	265	G	A	89	E	K
DAVID_dopamine receptor D5 pseudogene 2	27	5	chr1	147169862	A	C	ENST00000331689	277	A	C	93	T	P
dynein; light chain; Tctex-type 3	41	13	chrX	37586052	G	T	CCDS14243.1	123	C	A	41	N	K
DAVID_family with sequence similarity 184: member B	32	6	chr4	17319698	C	T	NM_015688	809	G	A	270	R	Q
Fer3-like (Drosophila)	41	11	chr7	19151372	G	A	CCDS5368.1	139	C	T	47	R	X
DAVID_hypothetical LOC100133855; hypothetical protein FLJ35424	40	7	chr4	3560622	ACAC	0	ENST00000404649	309	ACAC	0	-1		FsDel4bp
glyoxalase domain containing 4	52	9	chr17	632342	C	A	ENST00000397393	517	G	T	173	E	X
golgi reassembly stacking protein 1; 65kDa	47	5	chr3	39115364	G	A	CCDS2681.1	941	C	T	314	S	F
hornerin	46	5	chr1	150454686	T	C	CCDS30859.1	6043	A	G	2015	T	A
immunoglobulin heavy variable 3-48	67	7	chr14	106065163	C	T	ENST00000390624	47	G	A	16	G	D
immunoglobulin lambda variable 3-16	45	6	chr22	21419947	T	C	ENST00000390311	40	T	C	14	C	R
IQ motif containing with AAA domain 1	47	8	chr2	237061444	G	T	NM_024726	586	C	A	196	Q	K
integrin; alpha 10	28	8	chr1	144244807	C	T	CCDS918.1	1333	C	T	445	R	C
integrin; alpha 8	88	9	chr10	15686223	C	T	CCDS31155.1	2108	G	A	703	R	H
lysine (K)-specific demethylase 5A	24	5	chr12	368529	GG	0	ENST00000382815	227	CC	0	-1		FsDel2bp
DAVID_KIAA0495	21	5	chr1	3652548	G	A	NM_207306	80	C	T	27	P	L
KIAA0649	32	7	chr9	137517589	C	T	CCDS6988.1	1412	C	T	471	S	F
v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog	20	6	chr12	25289551	C	G	CCDS8703.1	35	G	C	12	G	A
L1 cell adhesion molecule	97	28	chrX	152791323	G	T	CCDS14733.1	115	G	A	39	E	K
leukocyte receptor cluster (LRC) member 8	80	24	chr19	59661095	G	T	CCDS12894.1	1904	G	T	635	G	V
DAVID_hypothetical protein LOC100128788	144	20	chr16	2730554	C	A	ENST00000382313	54	G	T	18	E	D
DAVID_hypothetical LOC100133855; hypothetical protein FLJ35424	40	7	chr4	3560622	ACAC	0	ENST00000404649	309	ACAC	0	-1		FsDel4bp
melanoma antigen family A; 11	41	10	chrX	148576031	C	T	NM_005366	1228	G	A	410	D	N
melanoma antigen family C; 2	45	12	chrX	141118622	A	G	CCDS14678.1	818	T	C	273	L	P
microtubule-associated protein 18	49	5	chr5	71528747	0	C	CCDS4012.1	3809	0	C	-1		Fsins1bp
microtubule-associated protein 2	107	25	chr2	210283093	G	A	CCDS2384.1	4943	G	A	1648	R	H
MAP7 domain containing 3	102	24	chrX	135154458	T	G	CCDS44004.1	416	A	C	139	K	T
makorin ring finger protein 3	45	7	chr15	21362581	G	T	CCDS10013.1	559	G	T	187	A	S
DAVID_mucin 6: oligomeric mucus/gel-forming	55	7	chr11	1008390	C	T	NM_005961	4411	G	A	1471	A	T
DAVID_myosin XVb pseudogene	58	16	chr17	71133776	G	A	ENST00000226258	1259	G	A	420	R	H
DAVID_neurobeachin-like 2	57	11	chr3	47022512	G	A	NM_015175	6874	G	A	2292	A	T
DAVID_protocadherin gamma subfamily B: 6	48	9	chr5	140769985	C	T	NM_018926	2032	C	T	678	R	C
PDZ domain containing 4	29	11	chrX	152722058	G	A	CCDS14732.1	2254	C	T	752	R	C
polycystic kidney and hepatic disease 1 (autosomal recessive)	67	11	chr6	51632024	C	T	CCDS4935.1	10859	G	A	3620	R	H
periostin; osteoblast specific factor	35	14	chr13	37062577	C	A	CCDS9364.1	373	G	T	125	E	X
protein kinase C; eta	41	9	chr14	61086279	G	T	CCDS9752.1	2029	G	T	677	V	L
ret finger protein-like 3	49	6	chr22	31086652	A	G	CCDS43011.1	787	A	G	263	S	G
Rh blood group; CcEe antigens	18	6	chr1	25619817	G	C	CCDS30635.1	48	C	G	16	C	W
RRN3 RNA polymerase I transcription factor homolog (S. cerevisiae)	27	5	chr16	15086000	G	A	CCDS10559.1	596	C	T	199	S	L
Ras suppressor protein 1	11	5	chr10	16777164	0	C	CCDS7112.1	-1	0	G	-1	IVS6-4	SpliceAcceptor
sterile alpha motif domain containing 3	33	7	chr6	130538818	C	T	CCDS34539.1	683	G	A	228	R	H
sperm associated antigen 16	46	10	chr2	214586945	G	A	CCDS2396.1	1426	G	A	476	G	R
spermatogenesis associated 13	59	20	chr13	23761133	G	A	CCDS9305.1	-1	G	A	-1	IVS5-4	SpliceAcceptor
SPT2; Suppressor of Ty; domain containing 1 (S. cerevisiae)	74	11	chr11	18592968	G	A	CCDS31441.1	1429	C	T	477	R	X
serine/arginine repetitive matrix 1	78	9	chr1	24868384	CAAA	0	CCDS255.1	1923	CAAA	0	-1		FsDel4bp
synaptotagmin 2-like	40	11	chr10	75083299	C	A	NM_001114133	376	G	T	126	G	W
transcription factor 7-like 2 (T-cell specific; HMG-box)	25	5	chr10	114902117	C	G	CCDS7576.1	1128	C	G	376	Y	X
testis-specific kinase 2	39	9	chr1	45695882	G	A	CCDS41323.1	163	C	T	55	R	C
THAP domain containing 11	53	6	chr16	66434829	0	A	CCDS10847.1	871	0	A	-1		Fsins1bp
TSC22 domain family; member 1	49	15	chr13	44046008	G	A	CCDS31966.1	2203	C	T	735	Q	X
tetratricopeptide repeat domain 21A	22	9	chr3	39131173	G	A	CCDS43068.1	652	G	A	218	V	I
tetratricopeptide repeat domain 24	71	22	chr1	154818171	G	A	ENST00000368237	391	G	A	131	G	S
tetratricopeptide repeat domain 25	41	12	chr17	37348390	C	T	ENST00000377543	680	C	T	227	T	M
UDP-glucuronosyltransferase 1 family; polypeptide A6	47	8	chr2	234245741	C	G	CCDS2505.1	422	C	G	141	S	C
zinc finger; DHHC-type containing 23	33	12	chr3	115155630	G	T	CCDS33827.1	555	G	T	185	L	F
zinc finger protein 667	37	6	chr19	61673152	G	A	ENST00000342634	85	C	T	29	R	C
zinc finger protein 729	38	7	chr19	22290530	G	A	ENST00000357491	2471	G	A	824	C	Y
zinc finger protein 816A	48	6	chr19	58146287	C	T	CCDS33096.1	553	G	A	185	G	S

