

**Table S1** The results of univariate Cox regression analysis base on the 99 higher mutated genes in the MSI-H group

ID	HR	HR.95L	HR.95H	P value
MYCBP2	0.964681	0.698809	1.331708	0.826975
SRCAP	0.992817	0.702375	1.403361	0.967435
SDK1	1.080528	0.871956	1.338989	0.47907
CSMD3	1.156247	0.264033	5.063411	0.847217
NEB	1.060396	0.86295	1.303019	0.576956
PCLO	1.0034	0.767219	1.312287	0.980223
SPECC1	0.925485	0.662304	1.293245	0.650108
RELN	1.191931	0.982407	1.44614	0.075073
TRIO	1.187599	0.909825	1.550178	0.205951
WDFY3	1.425395	0.957216	2.122563	0.081032
ZC3H13	0.940964	0.716558	1.235648	0.661564
GLI3	1.261373	1.013539	1.56981	0.037484
CIC	1.012092	0.741796	1.38088	0.939559
PRKDC	0.95302	0.751588	1.208437	0.691227
CACNA1E	0.897154	0.611546	1.316147	0.578868
PLEKHA6	0.95736	0.793604	1.154907	0.648915
PLXNA4	1.116182	0.851694	1.462805	0.425698
UBR5	1.114975	0.81727	1.521124	0.492262
KMT2C	0.932063	0.665188	1.306008	0.682703
CUBN	2.922375	1.316618	6.486525	0.008386
FLG	1.061083	0.604137	1.863647	0.836543
MUC16	1.207855	0.972659	1.499924	0.087437
GTF3C1	0.959462	0.666401	1.3814	0.823898
ANKRD11	1.0048	0.69931	1.443743	0.97934
OBSCN	1.167135	0.820126	1.660969	0.390624
DNAH10	1.10975	0.336238	3.662712	0.864281
DNAH5	1.410982	0.807371	2.465867	0.226763
MYO15A	4.003051	0.574112	27.91165	0.161544
RPL22	1.043533	0.780617	1.394999	0.773568
ZFHX3	1.196414	0.92891	1.540952	0.164881
ZFHX4	1.23827	0.979073	1.566086	0.074509
BSN	1.025335	0.656614	1.601113	0.912386
MACF1	1.09056	0.861031	1.381275	0.472139
RNF43	0.813136	0.704933	0.937948	0.004522
ACVR2A	1.315518	0.855014	2.024046	0.212237
DST	1.243938	1.032562	1.498584	0.021608
LRP1	1.260416	1.046191	1.518508	0.014889
RYR2	1.241395	0.939598	1.640128	0.128119
ABCA12	1.001773	0.796626	1.259749	0.98791
ASPM	0.883189	0.706139	1.104631	0.27651
FAT2	1.060809	0.767607	1.466005	0.720612
KMT2A	0.91618	0.647972	1.295404	0.620336
FCGBP	0.963601	0.89286	1.039947	0.340545
DNAH9	0.815137	0.358703	1.852362	0.62552
CELSR3	0.930618	0.752752	1.150511	0.506415
ANK3	0.776879	0.520494	1.159554	0.216637
VPS13B	0.97371	0.681102	1.392026	0.883843
PIK3CA	1.317818	0.9204	1.886837	0.131806
CSMD1	1.411415	0.800125	2.489726	0.234068

**Table S1** (continued)

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ID	HR	HR.95L	HR.95H	P value
SYNE1	1.185264	0.932934	1.505842	0.164048
AHNAK	1.131534	0.94036	1.361572	0.190628
PXDN	1.281295	1.057829	1.551968	0.011248
TRRAP	1.020093	0.7916	1.31454	0.877802
AHNAK2	1.106987	0.980997	1.249157	0.099201
FAT4	1.191584	0.953841	1.488583	0.122648
MDN1	0.910758	0.650325	1.275485	0.586457
HMCN1	1.284286	1.029768	1.601712	0.026401
XIRP2	15.28768	0.985736	237.0951	0.051213
SLC3A2	0.817782	0.636286	1.051049	0.116159
SPEN	0.805275	0.561451	1.154987	0.239223
DOCK3	1.373295	0.966391	1.951529	0.076847
COL7A1	0.99347	0.851799	1.158704	0.933486
RYR3	1.095943	0.726111	1.654141	0.662703
CELSR1	1.08891	0.910089	1.302868	0.352048
COL12A1	1.132543	0.986768	1.299854	0.076646
ZBTB20	1.121466	0.873364	1.440046	0.368869
TTN	3.971122	0.930236	16.95248	0.06256
ARID1A	0.87652	0.645159	1.190848	0.399287
KMT2D	0.873702	0.650703	1.173125	0.36919
RNF213	0.871231	0.704582	1.077297	0.203159
DNAH3	1.233547	0.562259	2.706295	0.600558
PDZD2	1.31686	0.964236	1.798439	0.083462
RGS12	0.950627	0.621949	1.453	0.815054
CHD7	0.875777	0.649503	1.180879	0.384425
LRP1B	3.444896	1.025534	11.57183	0.045419
HSPG2	1.094828	0.931877	1.286274	0.27052
NIPBL	0.935407	0.674168	1.297878	0.689445
RYR1	1.24919	0.822713	1.896742	0.296415
PCDH10	1.284878	0.939751	1.756755	0.116274
RP1	3.16097	0.845636	11.81564	0.08713
ATM	1.040774	0.764309	1.417242	0.799727
PLEC	0.966135	0.771153	1.210415	0.764515
LAMA1	1.047016	0.83021	1.320439	0.697937
LARP4B	0.865007	0.618661	1.209446	0.396444
FAT3	1.645453	1.024353	2.643149	0.03945
HERC2	0.952908	0.662977	1.369632	0.794397
XYLT2	0.849804	0.618072	1.168418	0.316425
ITPR3	0.964639	0.796439	1.168361	0.712673
SACS	1.08966	0.828485	1.433168	0.539108
TG	0.759979	0.358163	1.612588	0.474575
SYNE2	0.897274	0.712179	1.130474	0.357799
SORL1	0.990217	0.808127	1.213336	0.924457
DYNC1H1	1.195678	0.869715	1.64381	0.271142
DMD	1.161021	0.980643	1.374577	0.083084
MUC5B	1.01203	0.935932	1.094315	0.764309
KMT2B	0.902939	0.652162	1.250146	0.538521
CREBBP	1.022142	0.726265	1.438557	0.900045
DIDO1	0.907041	0.639925	1.285658	0.583564
COL6A3	1.153283	1.002742	1.326425	0.04568