

S2 Table. List of variants in COSMIC predicted to be germline.

Gene	Protein change	CDS change	hg19 coordinate	dbSNP ID	Common SNP in 1000 Genomes	P-value
EP300	P925T	2773C>A	chr22:41546158	rs148884710	no	7.97E-235
VHL	P25L	74C>T	chr3:10183605	rs35460768	no	2.99E-191
CSF1R	V32G	95T>G	chr5:149460542	rs56048668	no	3.40E-181
APC	I1307K	3920T>A	chr5:112175211	rs1801155	no	1.54E-159
RET	Y791F	2372A>T	chr10:43613908	rs77724903	no	6.41E-124
MSH6	V509A	1526T>C	chr2:48026648	rs63751005	no	2.96E-84
MLL	L3614P	10841T>C	chr11:118379865	rs146191865	yes	7.61E-71
IL7R	T244I	731C>T	chr5:35874575	rs6897932	yes	2.28E-60
CREBBP	S893L	2678C>T	chr16:3820773	rs142047649	no	5.71E-47
ATM	S978P	2932T>C	chr11:108141988	rs139552233	no	2.01E-45
CREBBP	P858S	2572C>T	chr16:3820879	rs145733598	yes	7.78E-40
IGF1R	R595H	1784G>A	chr15:99456467	rs45483397; rs56248469	no	1.26E-36
PAX5	S213L	638C>T	chr9:36966688	rs137870876	no	2.40E-36
MSH2	G322D	965G>A	chr2:47643457	rs4987188	yes	1.20E-35
PARP3	S91N	272G>A	chr3:51978193	rs34224216	yes	1.14E-34
TBX3	S615A	1843T>G	chr12:115110035	.	no	4.10E-34
GRIN2A	A1276G	3827C>G	chr16:9857574	rs145063086	no	5.72E-34
RET	R114H	341G>A	chr10:43597793	rs76397662	yes	5.16E-32
CARD11	N191S	572A>G	chr7:2983958	rs147264763	no	9.78E-32
MLL2	P1131L	3392C>T	chr12:49443979	rs201623566	no	1.85E-31
BRCA2	S1982fs*22	5946_5946delT	chr13:32914437	rs80359550	no	4.90E-31
APC	R1171C	3511C>T	chr5:112174802	rs201830995	no	3.79E-26
FLT4	S637R	1911C>G	chr5:180048651	rs148898412	no	3.61E-25
EGFR	P848L	2543C>T	chr7:55259485	rs148934350	no	3.42E-24
MLL2	R1388L	4163G>T	chr12:49441821	rs202217665	no	3.25E-23
RB1	G310E	929G>A	chr13:48939097	rs200844292	no	2.94E-21
ALK	E1419K	4255G>A	chr2:29416698	rs56181542	no	5.56E-21
EGFR	E282K	844G>A	chr7:55221800	rs199796955	no	2.00E-20
VHL	P81S	241C>T	chr3:10183772	rs104893829	no	2.52E-18
CDKN2A	I49T	146T>C	chr9:21974681	rs199907548	no	2.39E-17
FBXW7	E192A	575A>C	chr4:153271203	rs201015633	no	4.53E-17
KDR	N793S	2378A>G	chr4:55964435	rs200147160	yes	2.16E-15
STK11	F298L	894C>A	chr19:1221979	rs199681533	no	2.16E-15
LRP1B	R1072H	3215G>A	chr2:141680638	rs370586151	no	1.47E-14
AURKB	R147W	439C>T	chr17:8110166	rs148133660	no	2.05E-14
MLH1	R217C	649C>T	chr3:37053562	rs4986984	no	3.69E-13
PIK3C2G	I294T	881T>C	chr12:18443908	.	no	6.99E-13
BRCA2	T1354M	4061C>T	chr13:32912553	rs80358656	no	1.85E-12
FANCA	M160I	480G>A	chr16:89877157	rs200603300	no	1.85E-12
SETD2	I2295M	6885A>G	chr3:47098389	rs150476239	no	1.85E-12
TP53	R290H	869G>A	chr17:7577069	rs55819519	no	6.64E-12
MLL2	L2610P	7829T>C	chr12:49433724	rs200998047	no	1.76E-11
VHL	R200W	598C>T	chr3:10191605	rs28940298	no	3.33E-11
AXL	V289M	865G>A	chr19:41743930	rs141302305	no	6.31E-11
PTEN	A79T	235G>A	chr10:89690828	rs202004587	no	1.20E-10
BRCA1	C61G	181T>G	chr17:41258504	rs28897672	no	1.67E-10
FANCM	R658*	1972C>T	chr14:45636336	rs368728266	no	1.67E-10
TP53	N235S	704A>G	chr17:7577577	rs144340710	no	3.16E-10
BRCA2	A938fs*21	2808_2811delACAA	chr13:32911299	rs80359352	no	3.16E-10
PARP1	A625T	1873G>A	chr1:226564877	.	no	3.16E-10
FAT3	T3929M	11786C>T	chr11:92600034	.	no	1.59E-09
AXL	V744M	2230G>A	chr19:41763458	rs372169583	no	1.59E-09
FANCM	S1276L	3827C>T	chr14:45645784	.	no	1.51E-08

<i>CREBBP</i>	A467T	1399G>A	chr16:3832859	rs202225861	no	1.51E-08
<i>MLH1</i>	R325Q	974G>A	chr3:37061890	rs63750268	no	1.51E-08
<i>CDKN2A</i>	A121T	361G>A	chr9:21971040	rs199888003	no	1.51E-08
<i>PTCH1</i>	T416S	1247C>G	chr9:98240437	rs201174718	no	2.86E-08
<i>EPHB1</i>	V322I	964G>A	chr3:134851558	.	no	3.87E-08
<i>NRAS</i>	P185S	553C>T	chr1:115251173	rs374061873	no	1.43E-07
<i>ASXL1</i>	V1367I	4099G>A	chr20:31024614	rs147456014	no	1.43E-07
<i>RET</i>	V804M	2410G>A	chr10:43614996	rs79658334	no	1.43E-07
<i>FGFR1</i>	T141R	422C>G	chr8:38285890	rs200482627	no	1.43E-07
<i>PMS2</i>	V415M	1243G>A	chr7:6027153	rs138387687	no	2.71E-07
<i>ATR</i>	R1082H	3245G>A	chr3:142266679	rs146504354	no	2.71E-07
<i>KDM2B</i>	T28fs*8	82_83delAC	chr12:122018733	.	no	9.74E-07
<i>MLL</i>	K2658N	7974G>C	chr11:118374590	rs142807735	no	1.36E-06
<i>RET</i>	E511K	1531G>A	chr10:43607555	rs201553718	yes	2.58E-06
<i>CDKN2A</i>	A57V	170C>T	chr9:21971188	rs372266620	no	2.58E-06
<i>CDH1</i>	S838G	2512A>G	chr16:68867265	rs121964872	no	2.58E-06