

Table S1 Hub genes related to OS

Number	Hub genes	Module
1	<i>ITGAV</i>	Blue
2	<i>RND3</i>	Blue
3	<i>TMEM106B</i>	Blue
4	<i>MAP1B</i>	Blue
5	<i>TXNDC9</i>	Blue
6	<i>ABCD3</i>	Blue
7	<i>LAPTM4B</i>	Blue
8	<i>CHMP5</i>	Blue
9	<i>SEC23A</i>	Blue
10	<i>ACTR6</i>	Blue
11	<i>GOLT1B</i>	Blue
12	<i>PLS3</i>	Blue
13	<i>SPTSSA</i>	Blue
14	<i>SLC39A6</i>	Blue
15	<i>ACSL3</i>	Blue
16	<i>FAM98A</i>	Blue
17	<i>FAM3C</i>	Blue
18	<i>PRKDC</i>	Blue
19	<i>TAF1D</i>	Blue
20	<i>CNN3</i>	Blue
21	<i>CCNC</i>	Blue
22	<i>EIF2AK3</i>	Blue
23	<i>XPOT</i>	Blue
24	<i>ABCE1</i>	Blue
25	<i>DERL1</i>	Blue
26	<i>LYPLA1</i>	Blue
27	<i>MORF4L2</i>	Blue
28	<i>EIF1AX</i>	Blue
29	<i>ATP2B1</i>	Blue
30	<i>FUBP3</i>	Blue
31	<i>MRPL3</i>	Blue
32	<i>BAG2</i>	Blue
33	<i>NCKAP1</i>	Blue
34	<i>COPB1</i>	Blue
35	<i>MRPL15</i>	Blue
36	<i>CADM1</i>	Red

OS, osteosarcoma.

Table S2 Risk scores in all OS patients

ID	Futime (year)	Fustat	CKMT2	CGREF1	Risk Score	Risk
TARGET-40-PAMTCM	8.224658	0	3.5898	56.1592	1.216692	High
TARGET-40-PAPKWD	1.156164	1	2.1693	97.9105	3.709693	High
TARGET-40-PATMXR	1.057534	1	15.1729	158.8299	29.15426	High
TARGET-40-PAUVUL	0.950685	1	0.2553	168.6287	24.86383	High
TARGET-40-PATUXZ	1.39726	1	4.352	83.8284	2.675392	High
TARGET-40-0A4I0Q	1.421918	1	43.0603	75.7837	6.542516	High
TARGET-40-PAUXPZ	1.660274	1	5.5183	86.7377	2.999026	High
TARGET-40-PARBGW	0.783562	0	6.9779	99.6041	4.466411	High
TARGET-40-PATMPU	4.326027	1	14.1318	59.1859	1.7934	High
TARGET-40-PAKZZK	4.150685	1	4.5074	46.0402	0.944111	High
TARGET-40-PAPXGT	6.920548	0	1.8887	44.33	0.834921	High
TARGET-40-PATKSS	2.076712	1	1.6787	44.8336	0.841528	High
TARGET-40-PAKFVX	2.526027	0	4.6025	109.8129	5.532576	High
TARGET-40-0A4I48	4.427397	0	7.0534	37.9146	0.811405	High
TARGET-40-PALKDP	8.991781	0	1.1857	60.9789	1.297175	High
TARGET-40-PASNZV	4.786301	0	3.0841	86.3373	2.76479	High
TARGET-40-0A4I42	1.69589	1	51.6375	83.4179	10.35174	High
TARGET-40-PAMLKS	0.493151	1	5.9662	99.8351	4.365739	High
TARGET-40-PATPBS	4.021918	0	11.1812	31.3319	0.761771	High
TARGET-40-0A4I6O	5.221918	1	60.1484	10.5592	1.760834	High
TARGET-40-0A4HY5	0.794521	1	19.1386	27.2276	0.855458	High
TARGET-40-PARDAX	1.860274	1	82.3325	206.6791	761.3558	High
TARGET-40-0A4HXS	8.076712	0	18.5351	92.9085	5.179527	High
TARGET-40-PAUUML	1.841096	0	10.6613	42.4155	1.019912	High
TARGET-40-PAPNVD	2.526027	1	3.2627	113.9599	5.970288	High
TARGET-40-PANPUM	0.808219	1	5.4006	41.1549	0.846218	High
TARGET-40-PAVALD	1.509589	0	2.5622	39.4736	0.744216	High
TARGET-40-PAVCLP	1.4	0	3.2235	93.7766	3.41074	High
TARGET-40-PARKAF	2.906849	1	0.3742	68.3764	1.555129	High
TARGET-40-PARGTM	7.150685	0	4.6162	38.615	0.77111	High
TARGET-40-PAMYYJ	0.742466	1	115.3489	50.2052	25.94862	High
TARGET-40-PARFTG	1.789041	1	138.1361	151.924	836.751	High
TARGET-40-PASYUK	5.123288	0	57.095	3.2408	1.316644	High
TARGET-40-PAMRHD	0.20274	1	10.7643	132.2139	12.28746	High
TARGET-40-PAMJXS	10.58082	1	7.4718	164.0769	26.99465	High
TARGET-40-0A4I9K	6.183562	0	1.4034	61.5654	1.326716	High
TARGET-40-PAUTYB	1.471233	1	3.6413	116.5225	6.479608	High
TARGET-40-PAKXLD	6.745205	0	6.2479	8.7955	0.354044	Low
TARGET-40-PASEFS	5.786301	0	21.2441	11.8162	0.593334	Low
TARGET-40-PANGRW	9.254795	0	0.7409	14.6635	0.355299	Low
TARGET-40-PAVDTY	1.010959	0	1.3706	19.8018	0.41712	Low
TARGET-40-PALZGU	7.89589	1	3.6214	35.3898	0.685291	Low
TARGET-40-PASFCV	5.649315	0	0.9416	3.005	0.258788	Low
TARGET-40-PALWWX	5.926027	0	3.7084	0.9958	0.265131	Low
TARGET-40-0A4I65	16	0	2.3464	28.3472	0.543534	Low
TARGET-40-PANZHX	3.624658	0	0.6566	36.1718	0.64287	Low
TARGET-40-0A4HLD	10.81096	0	0.3977	6.7185	0.282341	Low
TARGET-40-PAKUZU	0.00274	0	1.3823	28.2013	0.526491	Low
TARGET-40-PAMHLF	5.241096	0	2.252	37.8843	0.705837	Low
TARGET-40-0A4HMC	1.032877	0	0.9218	22.2988	0.441222	Low
TARGET-40-PANZZJ	4.213699	0	2.0303	23.2154	0.46727	Low
TARGET-40-PALFYN	2.747945	1	0.8267	4.0427	0.265448	Low
TARGET-40-PATMIF	4.328767	0	1.1007	0.8674	0.245041	Low
TARGET-40-PASRNE	4.676712	0	0.6194	21.1464	0.423655	Low
TARGET-40-PATJVI	4.315068	0	1.4985	4.3896	0.273256	Low
TARGET-40-PAVECB	1.30411	0	0.4479	10.2049	0.3114	Low
TARGET-40-PAUBIT	2.819178	0	1.0931	4.8405	0.27347	Low
TARGET-40-PALECC	2.065753	1	0.6707	14.6559	0.354505	Low
TARGET-40-PASKZZ	1.484932	0	3.7396	25.4209	0.5218	Low
TARGET-40-0A4HX8	4.794521	0	1.0663	13.7266	0.349468	Low
TARGET-40-PAUYTT	1.586301	0	0.5201	1.4055	0.244586	Low
TARGET-40-PAPWWC	6.90411	0	1.3904	17.4304	0.39084	Low
TARGET-40-0A4I4O	1.717808	1	1.8597	1.8966	0.257705	Low
TARGET-40-0A4I0W	1.871233	0	0.4643	2.079	0.248788	Low
TARGET-40-PATEEM	3.975342	0	18.3952	20.6137	0.697215	Low
TARGET-40-PASEBY	5.613699	0	0.9538	28.8257	0.529088	Low
TARGET-40-PAMEKS	2.347945	1	0.9616	19.8281	0.412526	Low
TARGET-40-PALHRL	11.98356	0	0.5083	4.9803	0.269937	Low
TARGET-40-PANMIG	2.126027	1	5.6751	12.0918	0.381512	Low
TARGET-40-PANGPE	9.254795	0	0.5317	16.8588	0.375289	Low
TARGET-40-PATAWV	4.663014	0	0.3834	0.1461	0.235276	Low
TARGET-40-PAPIJR	4.709589	0	1.0144	12.0751	0.333351	Low
TARGET-40-PAMHYN	10.68493	0	0.7946	14.6893	0.356104	Low
TARGET-40-0A4I5B	1.69589	0	1.5511	33.2782	0.608897	Low
TARGET-40-PANXSC	3.334247	0	1.6327	1.8373	0.255603	Low
TARGET-40-PASSLM	5.109589	0	15.6403	12.8479	0.519372	Low
TARGET-40-PANSEN	6.180822	0	6.9598	9.231	0.365775	Low
TARGET-40-PAUTWB	1.882192	0	1.0117	15.9747	0.371323	Low
TARGET-40-PALKGN	5.813699	0	1.0396	2.4135	0.255306	Low
TARGET-40-0A4I4M	1.939726	0	0.4745	3.0056	0.255327	Low
TARGET-40-PARJXU	4.468493	1	1.3926	3.23	0.263816	Low
TARGET-40-PANVJJ	8.479452	0	2.9252	5.5849	0.294319	Low
TARGET-40-0A4I8U	2.693151	0	1.607	10.2166	0.322095	Low
TARGET-40-PASUUH	4.452055	0	0.4726	16.8793	0.374862	Low
TARGET-40-0A4I3S	5.052055	0	2.2414	2.0221	0.261466	Low

OS, osteosarcoma; ID, identity; Futime, follow-up time; Fustat, follow-up status, with 0 representing alive and 1 representing deceased.