

Table S1 The EMRPS risk scores and survival information of the TARGET-OS cohort patients

ID	Survival time (years)	Survival status	DDX24	DNAJC1	HDAC4	SIRT7	SP140	UHRF2	Risk Score	Risk level
TARGET-40-PARBGW	0.78	Alive	3.677	5.716	1.005	1.894	0.134	2.712	23.02	High
TARGET-40-0A4HY5	0.79	Dead	4.194	4.376	1.708	2.403	0.220	3.013	64.29	High
TARGET-40-PANPUM	0.81	Dead	3.888	4.613	2.337	1.792	0.097	3.479	1,015.17	High
TARGET-40-PAUVUL	0.95	Dead	2.803	4.424	1.352	1.951	0.053	2.669	264.24	High
TARGET-40-PAVDTY	1.01	Alive	3.163	5.663	0.713	1.560	0.025	2.393	13.96	High
TARGET-40-PAVECB	1.30	Alive	3.837	4.459	1.176	0.789	0.021	1.935	0.19	Low
TARGET-40-PATUXZ	1.40	Dead	4.259	5.420	1.678	3.415	0.729	2.659	37.44	High
TARGET-40-0A4IQ	1.43	Dead	3.989	5.211	2.429	1.349	0.144	2.081	44.56	High
TARGET-40-PAUTYB	1.48	Dead	3.764	5.465	1.125	2.668	0.303	1.626	11.77	High
TARGET-40-PAUYTT	1.58	Alive	3.452	4.618	0.741	2.543	0.150	1.523	5.36	High
TARGET-40-PAUXPZ	1.66	Dead	3.408	4.729	1.201	2.371	0.049	2.863	288.96	High
TARGET-40-0A4I5B	1.70	Alive	4.418	3.775	1.723	2.655	1.013	2.060	0.02	Low
TARGET-40-0A4I42	1.70	Dead	3.547	5.536	1.074	2.661	0.217	2.482	122.49	High
TARGET-40-0A4I4O	1.72	Dead	3.610	3.134	1.950	2.477	0.184	1.954	46.19	High
TARGET-40-PARFTG	1.79	Dead	4.118	4.368	1.173	2.787	0.198	2.833	39.02	High
TARGET-40-0A4IOW	1.88	Alive	3.800	3.359	1.162	0.961	0.049	2.640	0.24	Low
TARGET-40-0A4I4M	1.94	Alive	4.049	3.893	1.417	2.413	0.373	1.696	0.89	Low
TARGET-40-PALECC	2.07	Dead	3.844	3.800	1.583	2.198	0.098	1.858	12.20	High
TARGET-40-PATKSS	2.08	Dead	3.984	4.544	1.736	1.764	0.048	2.484	32.78	High
TARGET-40-PAMEKS	2.35	Dead	3.670	3.658	1.496	1.007	0.130	3.203	1.87	Low
TARGET-40-PAPNVD	2.53	Dead	3.747	4.420	3.063	1.758	0.795	3.034	24.12	High
TARGET-40-PAUBIT	2.82	Alive	3.499	5.734	1.312	2.331	0.343	1.105	6.19	High
TARGET-40-PANXSC	3.33	Alive	4.095	3.021	1.415	2.444	0.635	2.033	0.08	Low
TARGET-40-PANZHX	3.63	Alive	4.299	3.729	0.839	1.819	0.534	2.192	0.01	Low
TARGET-40-PATJVI	4.32	Alive	4.572	3.963	0.842	1.776	1.137	3.574	0.00	Low
TARGET-40-PATMIF	4.33	Alive	4.786	4.051	0.793	2.213	0.685	2.877	0.01	Low
TARGET-40-PARJXU	4.47	Dead	4.731	4.999	1.672	1.507	0.068	2.459	3.05	High
TARGET-40-0A4I3S	5.05	Alive	4.514	4.084	1.209	1.797	0.362	2.255	0.08	Low
TARGET-40-PASSLM	5.11	Alive	4.773	4.792	1.369	2.203	0.027	2.700	13.79	High
TARGET-40-PASYUK	5.13	Alive	4.029	4.092	1.685	1.675	1.722	2.549	0.00	Low
TARGET-40-0A4I6O	5.23	Dead	4.762	4.312	1.969	1.449	0.109	2.851	3.94	High
TARGET-40-PAMHLF	5.24	Alive	4.371	3.773	2.010	1.464	0.699	2.149	0.02	Low
TARGET-40-PASEBY	5.62	Alive	4.055	4.868	1.391	1.815	0.408	1.717	0.29	Low
TARGET-40-PALKGN	5.82	Alive	4.688	3.839	0.853	2.001	0.195	1.617	0.03	Low
TARGET-40-0A4I9K	6.18	Alive	3.836	3.389	2.193	1.477	0.372	2.607	2.38	High
TARGET-40-PAPXGT	6.92	Alive	3.944	4.545	0.915	2.469	0.903	1.419	0.01	Low
TARGET-40-PALZGU	7.90	Dead	4.830	4.769	1.147	1.558	0.159	3.884	1.76	Low
TARGET-40-0A4HXS	8.08	Alive	4.304	3.665	2.256	1.234	0.638	2.079	0.04	Low
TARGET-40-PALKDP	8.99	Alive	5.313	3.551	0.491	2.229	0.063	2.371	0.03	Low
TARGET-40-PANGRW	9.26	Alive	3.692	4.594	0.612	1.640	0.181	1.804	0.15	Low
TARGET-40-PAMJXS	10.58	Dead	4.396	4.489	1.603	1.941	0.230	2.531	3.57	High
TARGET-40-PAMHYN	10.68	Alive	3.971	4.182	0.899	1.198	0.490	1.368	0.00	Low
TARGET-40-0A4HLD	10.81	Alive	4.651	4.300	2.108	2.072	0.549	1.701	0.30	Low
TARGET-40-0A4I65	16.00	Alive	3.914	3.606	1.191	1.348	0.105	2.298	0.33	Low
TARGET-40-PAMRHD	0.20	Dead	4.423	4.206	1.377	2.091	0.110	2.498	4.61	High
TARGET-40-PAMLKS	0.49	Dead	3.145	4.418	0.683	2.488	0.085	1.982	20.05	High
TARGET-40-PAMYYJ	0.74	Dead	5.325	5.847	1.226	2.772	0.123	2.937	29.91	High
TARGET-40-0A4HMC	1.03	Alive	4.190	4.545	1.713	2.493	0.476	2.033	3.23	High
TARGET-40-PATMXR	1.06	Dead	4.118	4.415	2.003	1.979	0.113	3.996	572.50	High
TARGET-40-PAPKWD	1.16	Dead	3.539	4.261	1.740	1.946	0.080	3.001	198.02	High
TARGET-40-PAVCLP	1.40	Alive	3.716	4.811	1.805	1.918	0.259	2.216	20.57	High
TARGET-40-PASKZZ	1.48	Alive	3.603	3.688	1.476	0.942	0.125	1.788	0.21	Low
TARGET-40-PAVALD	1.51	Alive	4.163	4.705	1.196	0.983	0.020	1.978	0.24	Low
TARGET-40-0A4IOS	1.65	Alive	3.627	4.621	1.365	2.137	0.362	2.094	3.62	High
TARGET-40-PAUJML	1.84	Alive	4.198	4.570	2.489	2.751	0.052	2.768	7076.16	High
TARGET-40-PARDAX	1.86	Dead	4.359	4.804	1.254	2.294	0.100	2.554	14.62	High
TARGET-40-PAUTWB	1.88	Alive	3.908	3.370	1.219	2.482	0.435	2.207	0.61	Low
TARGET-40-PANMIG	2.13	Dead	3.795	3.985	1.240	1.405	0.078	2.028	0.74	Low
TARGET-40-PAKFBX	2.53	Alive	3.926	4.672	0.861	2.250	0.086	2.094	4.61	High
TARGET-40-0A4I8U	2.69	Alive	3.308	4.865	1.341	2.267	0.178	1.852	38.03	High
TARGET-40-PALFYN	2.75	Dead	3.919	3.285	1.281	1.764	0.812	2.261	0.00	Low
TARGET-40-PARKAF	2.91	Dead	4.059	3.692	1.218	1.585	0.080	4.072	10.55	High
TARGET-40-PATEEM	3.98	Alive	4.323	4.674	1.577	2.945	0.305	2.792	83.30	High
TARGET-40-PATPBS	4.03	Alive	4.394	4.368	1.080	1.741	0.401	2.439	0.07	Low
TARGET-40-PAKZZK	4.15	Dead	3.987	3.876	1.403	2.389	0.311	2.902	8.97	High
TARGET-40-PANZZJ	4.22	Alive	4.439	3.305	0.998	1.376	0.135	1.837	0.02	Low
TARGET-40-PATMPU	4.33	Dead	4.515	4.569	1.361	1.854	0.152	3.053	4.25	High
TARGET-40-0A4I48	4.43	Alive	4.055	2.907	1.658	2.522	0.095	2.164	16.31	High
TARGET-40-PASUJH	4.45	Alive	3.954	4.465	1.585	3.510	1.454	1.893	0.03	Low
TARGET-40-PATAWV	4.67	Alive	4.311	3.709	1.221	1.969	0.143	2.868	1.98	Low
TARGET-40-PASRNE	4.68	Alive	3.837	4.472	1.454	1.819	0.490	2.870	1.17	Low
TARGET-40-PAPIJR	4.71	Alive	3.165	4.396	1.800	2.462	0.380	2.018	67.52	High
TARGET-40-PASNZV	4.78	Alive	4.157	4.725	1.357	1.967	0.509	2.618	0.51	Low
TARGET-40-0A4HX8	4.79	Alive	3.771	4.021	2.199	1.732	0.195	2.447	36.91	High
TARGET-40-PASFCV	5.65	Alive	4.188	3.952	1.356	1.561	1.078	2.263	0.00	Low
TARGET-40-PASEFS	5.78	Alive	4.408	2.672	1.671	1.199	0.111	1.458	0.03	Low
TARGET-40-PALWWX	5.93	Alive	4.703	3.973	1.284	2.559	0.478	2.601	0.40	Low
TARGET-40-PANSEN	6.18	Alive	4.856	4.317	1.459	1.512	0.126	1.862	0.15	Low
TARGET-40-PAKXLD	6.74	Alive	5.107	3.555	2.102	1.020	0.174	1.765	0.04	Low
TARGET-40-PAPWWC	6.90	Alive	4.382	4.851	1.396	1.523	0.143	2.006	0.69	Low
TARGET-40-PARGTM	7.15	Alive	5.355	4.630	2.154	2.336	0.146	2.266	12.16	High
TARGET-40-PAMTCM	8.23	Alive	4.932	5.010	1.493	1.406	0.039	2.680	1.42	Low
TARGET-40-PANVJJ	8.48	Alive	3.698	3.313	1.479	1.356	0.800	2.949	0.01	Low
TARGET-40-PANGPE	9.26	Alive	4.369	3.712	1.811	1.684	0.136	2.273	2.08	Low
TARGET-40-PALHRL	11.98	Alive	3.857	3.893	0.897	3.141	0.176	1.304	6.00	High

EMRPS, epigenetic modification-related prognostic signature; TARGET-OS, the osteosarcoma data from the Therapeutically Applicable Research to Generate Effective Treatments database.

**Table S2** EMRPS risk scores and survival information of the GSE21257 cohort patients

ID	Survival time (years)	Survival status	DDX24	DNAJC1	HDAC4	SIRT7	SP140	UHRF2	Risk Score	Risk level
GSM531303	5.00	Alive	11.016	7.173	7.187	9.343	8.231	8.106	-17.02	Low
GSM531302	5.25	Alive	11.129	7.187	7.196	8.927	7.975	8.130	-16.47	Low
GSM531309	6.92	Dead	10.795	7.217	7.302	8.914	8.043	8.105	-15.96	Low
GSM531330	2.08	Dead	10.810	7.185	7.327	8.675	7.845	8.326	-14.80	Low
GSM531304	5.00	Alive	11.017	7.170	7.181	9.261	7.875	8.413	-14.07	Low
GSM531333	15.33	Alive	11.193	7.879	7.844	8.656	7.973	8.498	-14.05	Low
GSM531313	11.92	Alive	11.001	7.414	7.522	9.038	7.956	8.511	-13.83	Low
GSM531331	18.25	Alive	11.516	7.205	7.269	8.712	7.482	8.265	-13.71	Low
GSM531305	5.00	Alive	11.268	7.195	7.204	9.753	7.909	8.170	-13.66	Low
GSM531320	6.50	Alive	11.087	7.175	7.205	8.567	7.511	8.304	-13.60	Low
GSM531300	10.25	Alive	11.642	7.185	7.192	8.637	7.350	8.513	-13.10	Low
GSM531308	7.92	Alive	12.046	7.345	7.410	9.651	7.640	8.270	-12.66	Low
GSM531299	3.00	Alive	11.034	7.206	7.186	8.701	7.433	8.255	-12.57	Low
GSM531324	3.92	Dead	11.207	7.306	7.415	9.313	7.753	8.496	-12.37	Low
GSM531301	9.17	Dead	11.156	7.197	7.274	8.943	7.532	8.445	-12.31	Low
GSM531325	10.00	Alive	11.491	7.461	7.619	8.835	7.485	8.375	-11.74	Low
GSM531332	16.08	Alive	11.197	7.574	7.533	8.869	7.517	8.142	-11.74	Low
GSM531323	6.42	Alive	10.813	7.288	7.460	8.884	7.560	8.123	-11.74	Low
GSM531310	20.50	Alive	10.937	7.224	7.234	9.768	7.740	8.043	-11.64	Low
GSM531352	5.00	Alive	11.014	7.698	7.339	9.112	7.521	8.241	-10.96	Low
GSM531314	0.92	Dead	11.473	7.537	7.694	9.114	7.516	8.410	-10.72	Low
GSM531321	8.08	Alive	10.672	8.238	7.937	9.060	7.946	8.718	-10.43	Low
GSM531322	2.75	Dead	11.364	7.643	7.953	8.765	7.615	9.311	-9.99	Low
GSM531334	16.17	Alive	10.860	7.448	7.501	9.032	7.508	8.702	-9.80	Low
GSM531288	1.08	Dead	11.879	7.991	8.557	8.680	7.550	8.601	-9.67	Low
GSM531312	3.33	Dead	11.197	7.766	7.299	9.402	7.402	8.263	-9.59	Low
GSM531311	2.08	Dead	10.959	7.301	7.323	9.333	7.419	8.519	-9.43	High
GSM531291	1.50	Dead	10.913	8.669	8.000	8.638	7.632	8.717	-9.16	High
GSM531289	2.75	Dead	11.019	8.104	8.221	8.432	7.447	8.395	-8.97	High
GSM531306	0.83	Dead	10.631	7.320	7.563	9.824	7.657	8.170	-8.78	High
GSM531284	2.33	Alive	10.909	8.009	8.488	8.605	7.589	8.273	-8.72	High
GSM531335	7.83	Alive	11.113	8.451	8.520	8.642	7.792	9.195	-8.67	High
GSM531328	2.67	Alive	10.580	8.345	8.088	8.250	7.538	9.077	-8.38	High
GSM531287	3.75	Alive	11.039	7.862	8.306	8.824	7.494	8.295	-8.32	High
GSM531295	2.25	Dead	11.319	8.357	8.312	8.387	7.367	8.949	-7.75	High
GSM530667	2.25	Dead	10.862	7.819	8.355	9.062	7.589	8.939	-6.84	High
GSM530899	1.75	Dead	11.113	8.345	8.410	8.742	7.469	9.078	-6.50	High
GSM531298	15.75	Dead	10.839	7.558	8.093	9.323	7.406	8.552	-6.29	High
GSM531307	3.25	Dead	11.046	7.945	8.943	8.645	7.569	9.146	-6.03	High
GSM531292	2.50	Dead	10.583	8.783	8.410	9.058	7.573	8.455	-5.64	High
GSM531351	7.25	Alive	10.859	8.118	8.423	8.837	7.402	8.946	-5.52	High
GSM531319	8.75	Alive	10.579	8.257	8.359	8.893	7.470	9.201	-4.92	High
GSM531286	3.08	Alive	10.788	7.626	9.229	8.311	7.385	8.873	-4.87	High
GSM531294	0.33	Dead	10.795	8.647	8.566	8.738	7.456	9.207	-4.68	High
GSM531297	1.50	Dead	10.550	8.258	8.733	8.659	7.407	8.688	-4.66	High
GSM531296	2.17	Alive	10.646	8.509	8.735	8.761	7.479	8.877	-4.56	High
GSM531283	3.83	Alive	11.007	7.909	9.148	8.851	7.508	8.986	-4.46	High
GSM531285	0.92	Dead	10.267	9.135	8.157	9.007	7.491	8.887	-4.23	High
GSM531293	2.92	Dead	10.909	7.982	8.668	9.714	7.498	8.411	-3.88	High
GSM531326	7.58	Alive	10.099	8.500	8.838	9.237	7.658	8.335	-3.77	High
GSM531290	2.08	Alive	10.554	8.870	8.496	9.050	7.468	9.009	-3.58	High
GSM531329	2.58	Alive	10.814	8.826	9.298	8.460	7.390	8.712	-3.26	High
GSM531327	2.42	Dead	10.341	8.798	8.399	9.617	7.395	9.321	-0.72	High

EMRPS, epigenetic modification-related prognostic signature.