

Table S1 mRNA, lncRNA, miRNA for uni-Cox analysis

Type	Gene	HR	Lower	Upper	P value
mRNA	<i>PODN</i>	1.00324714	1.000381736	1.006120751	0.026317216
mRNA	<i>FCGR1B</i>	1.225197756	1.087937253	1.379775843	0.000807375
mRNA	<i>S100A6</i>	1.000132726	1.000020772	1.000244691	0.020144423
mRNA	<i>MFSD4</i>	1.003896826	1.0010547	1.006747021	0.007172789
mRNA	<i>RD3</i>	9.686973427	1.222493358	76.75907079	0.03154037
mRNA	<i>MAP1LC3C</i>	9.909903301	2.448197547	40.11366793	0.001304158
mRNA	<i>LBH</i>	1.002492379	1.000798014	1.004189613	0.003923848
mRNA	<i>PTH2R</i>	1.024213254	1.00595957	1.042798162	0.009118662
mRNA	<i>GBX2</i>	1.162964375	1.03895711	1.301772831	0.008683245
mRNA	<i>P2RY14</i>	1.034625196	1.002493988	1.06778625	0.034454507
mRNA	<i>ECT2</i>	1.000884699	1.000119407	1.001650577	0.023457019
mRNA	<i>NCAPG</i>	1.009635496	1.003840711	1.015463733	0.001093683
mRNA	<i>MTRNR2L13</i>	11.96603594	1.998156885	71.65904596	0.00656814
mRNA	<i>BRIX1</i>	1.00601046	1.00209252	1.009943718	0.002613369
mRNA	<i>PLCXD3</i>	1.006577701	1.001103146	1.012082193	0.018462868
mRNA	<i>ANXA2R</i>	1.041780733	1.013337135	1.071022721	0.003755365
mRNA	<i>F2R</i>	1.001167104	1.000163813	1.002171401	0.022597905
mRNA	<i>TMEM232</i>	1.316746374	1.094985569	1.583419054	0.003452075
mRNA	<i>SOWAHA</i>	1.033868334	1.003405156	1.065256367	0.029055336
mRNA	<i>ECI2</i>	1.009864713	1.002134859	1.01765419	0.012281938
mRNA	<i>HIST1H4J</i>	1.564509606	1.072090069	2.28310137	0.020290381
mRNA	<i>ATP6V1G2</i>	1.4873922	1.04772262	2.111566091	0.026369744
mRNA	<i>FBXO5</i>	1.013126265	1.002037096	1.024338153	0.020213059
mRNA	<i>STEAP1B</i>	1.041449037	1.000369087	1.084215926	0.047935932
mRNA	<i>STK31</i>	1.022053615	1.003115979	1.041348771	0.02225451
mRNA	<i>KIAA1456</i>	1.024296663	1.009681504	1.039123378	0.001060423
mRNA	<i>MBOAT4</i>	1.87459532	1.206266256	2.913210576	0.005211303
mRNA	<i>TEX15</i>	1.039375982	1.005666937	1.074214922	0.021681647
mRNA	<i>ABRA</i>	1.992266299	1.095058859	3.624576864	0.02398563
mRNA	<i>PSCA</i>	1.001112083	1.000148391	1.002076704	0.023701718
mRNA	<i>TPM2</i>	1.001297589	1.000140327	1.00245619	0.02796486
mRNA	<i>FNBP1</i>	1.003245661	1.000449606	1.006049531	0.022867729
mRNA	<i>IFIT1</i>	1.005054142	1.00065053	1.009477132	0.024434132
mRNA	<i>SVIP</i>	1.003810442	1.000194377	1.007439581	0.038873821
mRNA	<i>MS4A4E</i>	1.517375598	1.027378242	2.241072092	0.036107518
mRNA	<i>BANF1</i>	1.00250939	1.000946599	1.004074621	0.001640415
mRNA	<i>CST6</i>	1.023088654	1.004576641	1.041941801	0.014282239
mRNA	<i>CARNS1</i>	1.012654989	1.000820463	1.024629456	0.036019953
mRNA	<i>NOX4</i>	1.035195951	1.006147711	1.065082836	0.017218103
mRNA	<i>PCED1B</i>	1.020595086	1.000004332	1.041609817	0.049951328
mRNA	<i>ADCY6</i>	1.004574666	1.001432996	1.007726192	0.004290194
mRNA	<i>FAM19A2</i>	1.04124358	1.009978676	1.07347632	0.009368428
mRNA	<i>FGD6</i>	1.003877446	1.000994344	1.006768853	0.00835838
mRNA	<i>PXMP2</i>	1.032804175	1.008270549	1.057934763	0.008502061
mRNA	<i>PCCA</i>	1.009721838	1.001541774	1.017968713	0.019744437
mRNA	<i>RNASE4</i>	1.058263055	1.014720652	1.103673894	0.008250202
mRNA	<i>CHRNA7</i>	1.090171138	1.011816488	1.17459354	0.023289605
mRNA	<i>MYZAP</i>	1.045775929	1.015019956	1.077463835	0.003294647
mRNA	<i>CPEB1</i>	1.261233732	1.040651504	1.528571785	0.017971125
mRNA	<i>NETO2</i>	1.008593485	1.002321789	1.014904424	0.007174012
mRNA	<i>CES5A</i>	1.055968764	1.020003163	1.093202522	0.002068794
mRNA	<i>MT3</i>	1.871944415	1.010177739	3.468870632	0.046355814
mRNA	<i>FOXL1</i>	1.026298867	1.009175703	1.043712567	0.002494814
mRNA	<i>WSCD1</i>	1.04274854	1.006289644	1.08052838	0.021152414
mRNA	<i>FBXO39</i>	1.254608709	1.017668813	1.546714404	0.033672697
mRNA	<i>CLDN7</i>	1.000861121	1.000009453	1.001713515	0.047509668
mRNA	<i>GRIN3B</i>	1.040611102	1.008474328	1.07377197	0.012875002
mRNA	<i>GNG7</i>	1.02878942	1.004691234	1.053465618	0.018926503
mRNA	<i>ZNF69</i>	1.065589813	1.016451225	1.117103923	0.008354967
mRNA	<i>ZNF568</i>	1.103815426	1.037505847	1.174363015	0.001779274
mRNA	<i>ZNF677</i>	1.03702122	1.009900582	1.064870176	0.007175125
mRNA	<i>ZNF583</i>	1.055045041	1.012046614	1.099870326	0.011602025
mRNA	<i>ZFP28</i>	1.060267265	1.018434445	1.103818393	0.004380818
mRNA	<i>ZNF470</i>	1.069066834	1.009432604	1.132224074	0.022575092
mRNA	<i>PCNA</i>	1.00068121	1.000036564	1.001326271	0.038343032
mRNA	<i>FOXS1</i>	1.081767842	1.019362105	1.147994083	0.009527507
mRNA	<i>CPNE1</i>	1.000270287	1.0001006	1.000440003	0.001795694
mRNA	<i>OSM</i>	1.076369433	1.004919899	1.152899009	0.035727969
mRNA	<i>PNPLA5</i>	1.835240896	1.274827676	2.642011315	0.001090493
mRNA	<i>CSF2RA</i>	1.005326399	1.001445725	1.00922211	0.007100766
mRNA	<i>REPS2</i>	1.005841152	1.000026981	1.011689126	0.048943231
mRNA	<i>MTRNR2L10</i>	1.475029014	1.075887699	2.022246928	0.015764606
lncRNA	<i>CENPI</i>	0.956151986	0.91489512	0.999269315	0.046322293
lncRNA	<i>C15orf54</i>	13.70002718	2.445218728	76.75826404	0.002911662
lncRNA	<i>FAM13A-AS1</i>	1.164985633	1.049213514	1.293532256	0.004242355
lncRNA	<i>RP11-348N5.7</i>	1.146861831	1.039238092	1.265631109	0.006420873
lncRNA	<i>RP11-182J1.17</i>	3.783981949	1.414301714	10.1240911	0.008041888
lncRNA	<i>RP11-636O21.1</i>	2.195423447	1.203686861	4.004267447	0.01033054
lncRNA	<i>RP11-522B15.3</i>	1.030207733	1.006233497	1.054753172	0.013240969
lncRNA	<i>ZFH4-AS1</i>	1.66609615	1.110198097	2.500343306	0.013713115
lncRNA	<i>RP11-510N19.5</i>	1.030398167	1.005990913	1.055397588	0.014352505
lncRNA	<i>RP11-626E13.1</i>	2.746290777	1.143831247	6.593728801	0.023779145
lncRNA	<i>RP11-462G2.1</i>	1.007757162	1.001001925	1.014557987	0.024335659
lncRNA	<i>PRICKLE2-AS1</i>	0.005377968	4.50E-05	0.642647288	0.032262757
lncRNA	<i>RP11-266N13.2</i>	7.51993236	1.166039388	48.49697469	0.03388058
lncRNA	<i>RP1-136B1.1</i>	1.398188357	1.024293439	1.908565073	0.034759448
lncRNA	<i>RP5-1159O4.1</i>	1.079643763	1.005336208	1.159443623	0.035183321
lncRNA	<i>MAMDC2-AS1</i>	1.221694334	1.009639103	1.478287679	0.039533938
lncRNA	<i>LINC00304</i>	3.892700743	1.060305649	14.29127449	0.040539274
lncRNA	<i>RP6-74O6.6</i>	1.081829563	1.002939965	1.166924487	0.041755029
lncRNA	<i>RP11-325K4.2</i>	1.118697393	1.003612719	1.246978874	0.042859978
lncRNA	<i>RP11-1399P15.1</i>	1.94707145	1.009623778	3.754950422	0.04675119
lncRNA	<i>RP11-79H23.3</i>	1.064936777	1.000740638	1.13325101	0.047333628
lncRNA	<i>RP3-426I6.6</i>	2.366105534	1.004367295	5.574111607	0.048846213
lncRNA	<i>RP11-139H15.7</i>	3.133567638	1.004772391	9.772607439	0.049048698
miRNA	<i>hsa-miR-101-1</i>	0.999662129	0.999343099	0.999981262	0.037984048
miRNA	<i>hsa-miR-101-2</i>	0.999675281	0.999363188	0.999987472	0.041489546
miRNA	<i>hsa-miR-3074</i>	1.058380837	1.010632503	1.108385089	0.01599622
miRNA	<i>hsa-miR-3651</i>	1.084241971	1.026215504	1.145549493	0.003950585
miRNA	<i>hsa-miR-3652</i>	1.08412749	1.006833747	1.167355005	0.032319846
miRNA	<i>hsa-miR-421</i>	1.044978925	1.00639907	1.085037721	0.02188809
miRNA	<i>hsa-miR-503</i>	1.030179924	1.007310327	1.053568743	0.009435251

mRNA, messenger RNA; lncRNA, long non-coding RNA; miRNA, microRNA; uni-Cox, univariate Cox; HR, hazard ratio.

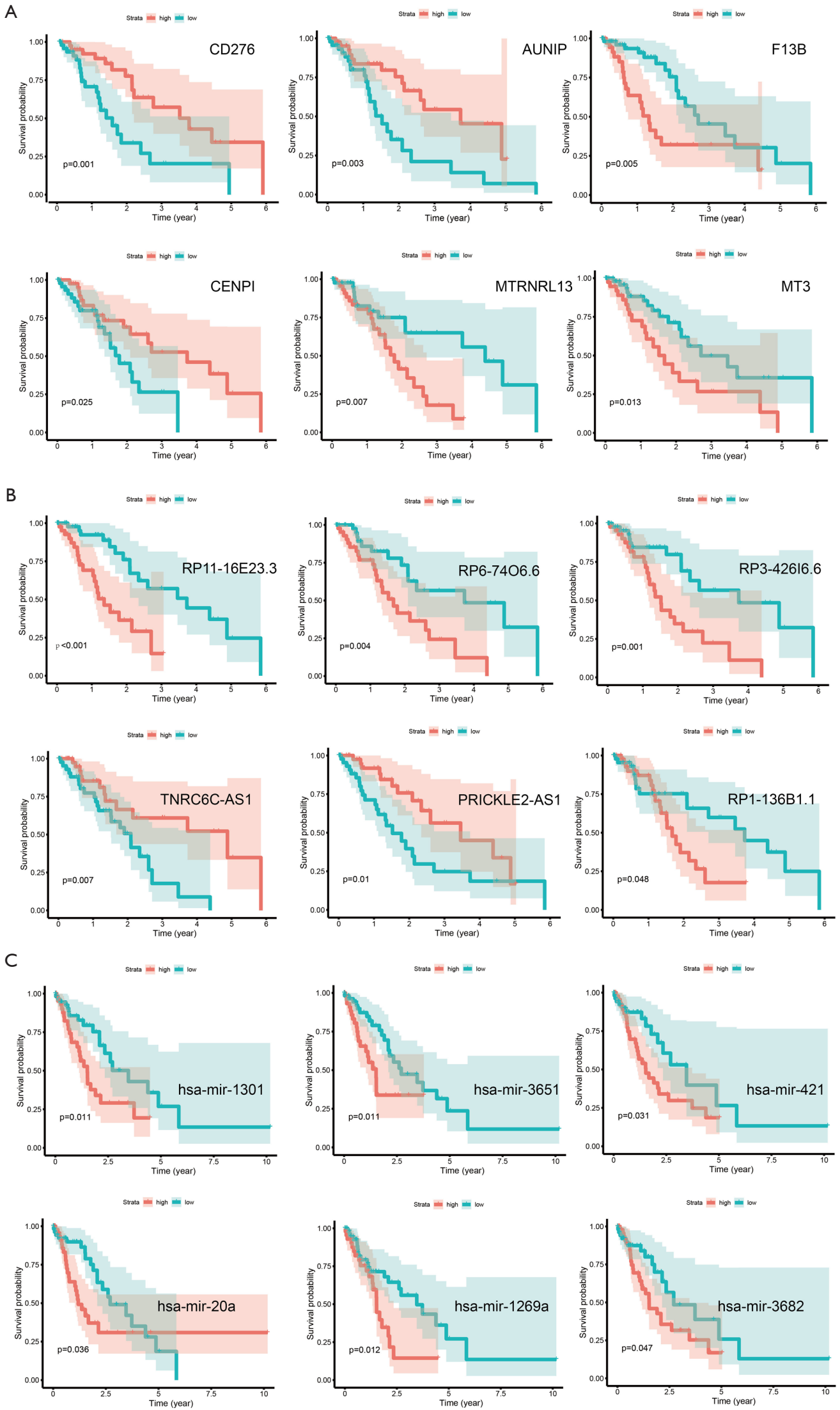


Figure S1 Survival analysis of the DESRGs (A), the DESRlncRNAs (B), and the DESRmiRNAs (C). Red indicates high expression group, light green indicates low expression group. DESRGs, differentially expressed stemness-related genes; DESRlncRNA, differentially expressed stemness-related long non-coding RNA; DESRmiRNA, differentially expressed stemness-related microRNA.

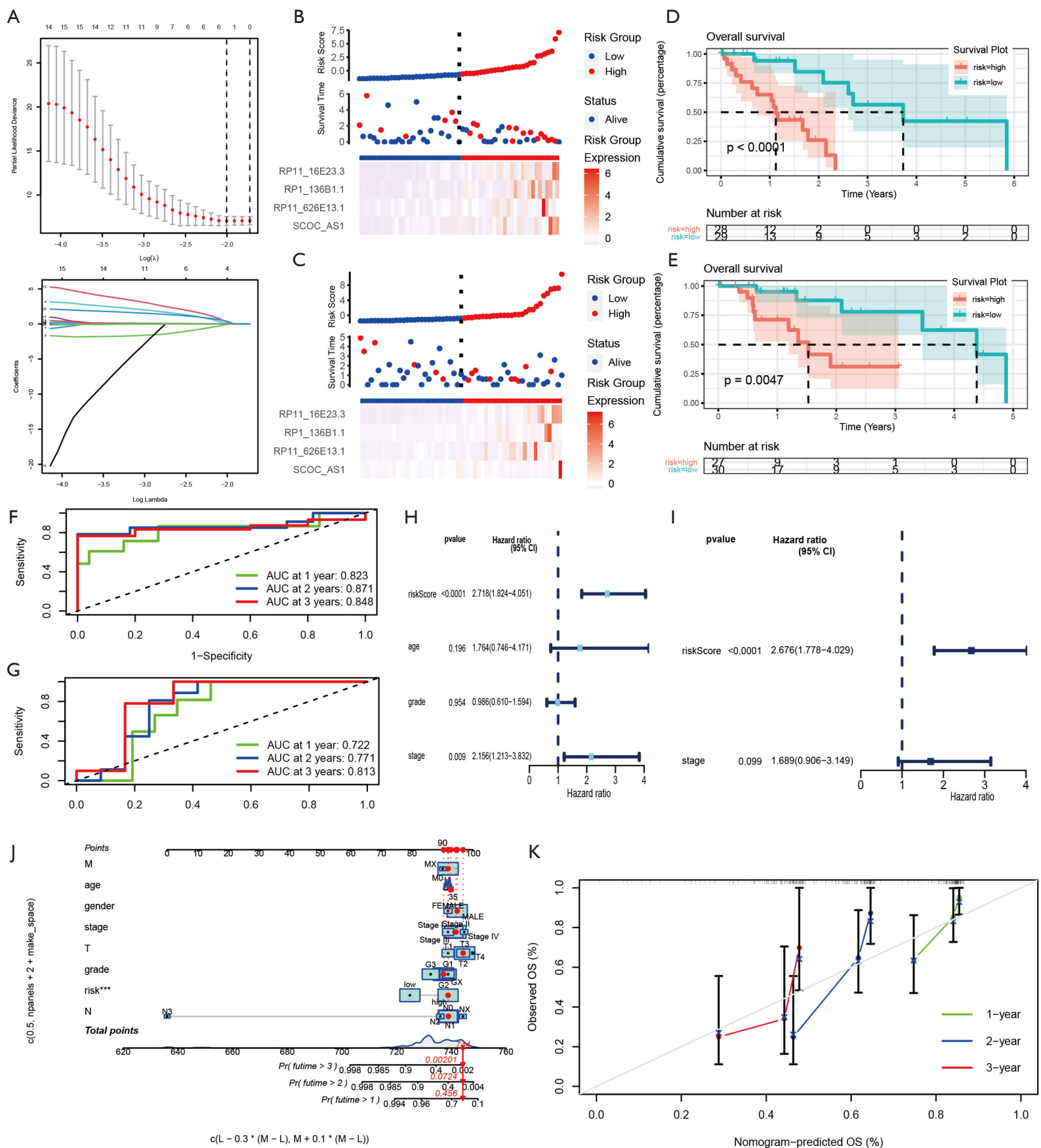


Figure S2 Construction and validation of the DESRlncRNA prognostic model. (A) LASSO regression analysis plot of the meaningful genes in the uni-Cox analysis. (B) A risk factor plot for the training set. (C) A risk factor plot for the validation set. The Kaplan-Meier survival curve analysis revealed an OS in the high-risk group from the training set (D) and the validation set (E). The red line represents the high-risk group. The green line represents the low-risk group. Survival-dependent ROC curves validated the prognostic significance of DESRlncRNAs as prognostic indicators in the training set (F) and the validation set (G). The green line represents the 1-year AUC; the blue line represents the 2-year AUC; and the red line represents the 3-year AUC. A forest plot of the uni-Cox (H) and multi-Cox (I) regression analyses. (J) A nomogram for predicting the survival probability of ESCA patients for predicting 1-, 2-, and 3-year survival outcomes of ESCA. (K) Calibration curves of the OS-nomogram. ***, $P < 0.001$. AUC, area under the ROC curve; ROC, receiver operating characteristic; CI, confidence interval; OS, overall survival; DESRlncRNA, differentially expressed stemness-related long non-coding RNA; LASSO, least absolute shrinkage and selection operator; uni-Cox, univariate Cox; multi-Cox, multivariate Cox; ESCA, esophageal cancer.

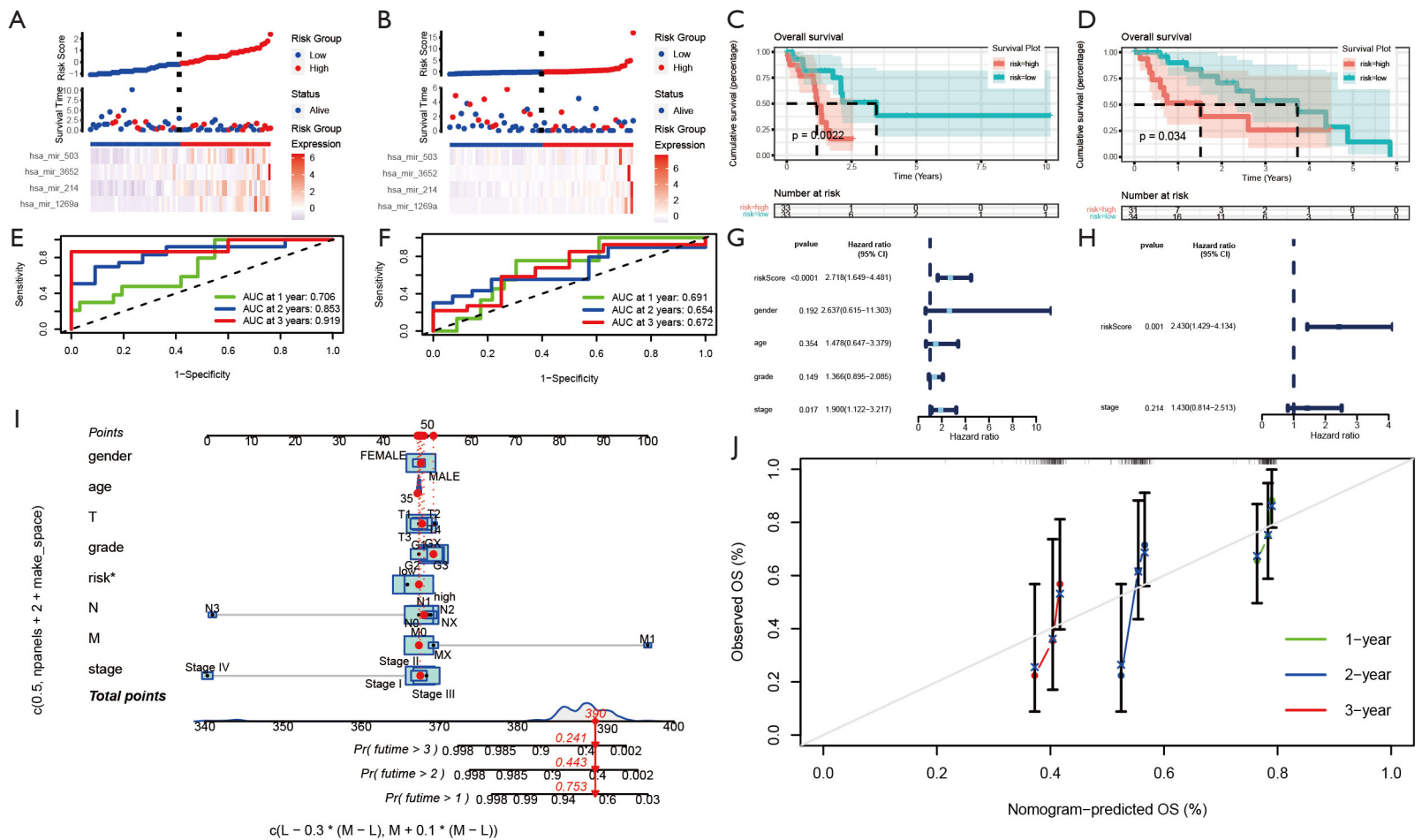


Figure S3 Construction and validation of the DESRmiRNA prognostic model. (A) A risk factor plot for the training set. (B) A risk factor plot for the validation set. The Kaplan-Meier survival curve analysis revealed an OS in the high-risk group from the training set (C) and the validation set (D). The red line represents the high-risk group. The green line represents the low-risk group. Survival-dependent ROC curves validated the prognostic significance of DESRmiRNAs as prognostic indicators in the training set (E) and the validation set (F). The green line represents the 1-year AUC; the blue line represents the 2-year AUC; and the red line represents the 3-year AUC. A forest plot of the uni-Cox (G) and multi-Cox (H) regression analyses. (I) A nomogram for predicting the survival probability of ESCA patients for predicting 1-, 2-, and 3-year survival outcomes of ESCA. (J) Calibration curves of the OS-nomogram. *, $P < 0.05$. AUC, area under the ROC curve; ROC, receiver operating characteristic; CI, confidence interval; OS, overall survival; DESRmiRNA, differentially expressed stemness-related microRNA; LASSO, least absolute shrinkage and selection operator; uni-Cox, univariate Cox; multi-Cox, multivariate Cox; ESCA, esophageal cancer.