

**Supplemental Table S1.** Multivariate analysis for ExpDDR clusters.

Variable	Univariate OS (N=810)			Multivariate OS (N=810)			Univariate CRD (N=398)			Multivariate CRD (N=398)		
	HR <sup>7</sup>	95% CI <sup>7</sup>	p-value	HR <sup>7</sup>	95% CI <sup>7</sup>	p-value	HR <sup>7</sup>	95% CI <sup>7</sup>	p-value	HR <sup>7</sup>	95% CI <sup>7</sup>	p-value
<b>Cluster</b>												
C1	1.00	—		1.00	—		1.00	—		1.00	—	
C2	1.08	0.80, 1.44	0.62	0.51	0.35, 0.75	<0.001	1.23	0.77, 1.95	0.38	0.84	0.46, 1.55	0.58
C3	1.19	0.90, 1.58	0.22	0.54	0.38, 0.77	<0.001	1.09	0.68, 1.75	0.72	0.72	0.40, 1.31	0.28
C4	1.18	0.89, 1.56	0.24	0.59	0.42, 0.84	0.003	0.90	0.56, 1.45	0.66	0.68	0.36, 1.26	0.22
C5	1.31	0.98, 1.76	0.070	0.67	0.47, 0.97	0.035	1.22	0.75, 1.98	0.43	0.87	0.44, 1.73	0.69
C6	1.74	1.27, 2.37	<0.001	0.60	0.40, 0.89	0.012	1.44	0.84, 2.48	0.18	0.72	0.35, 1.49	0.38
<b>Age (years)</b>	1.03	1.03, 1.04	<0.001	1.03	1.02, 1.04	<0.001	1.04	1.03, 1.05	<0.001	1.03	1.01, 1.04	<0.001
<b>White (race)</b>	1.30	1.06, 1.60	0.013				1.19	0.84, 1.68	0.33			
<b>Asian (race)</b>	0.60	0.37, 0.97	0.038				1.08	0.55, 2.12	0.81			
<b>Hispanic (race)</b>	0.68	0.49, 0.95	0.023				0.71	0.42, 1.21	0.21			
<b>2nd AML</b>	2.38	2.01, 2.81	<0.001	1.45	1.16, 1.82	0.001	1.93	1.44, 2.58	<0.001	1.38	0.92, 2.05	0.12
<b>Unfav. Cyto. Risk</b>	2.24	1.89, 2.66	<0.001				1.71	1.27, 2.31	<0.001			
<b>Complex Kar.</b>	2.44	2.05, 2.91	<0.001	1.78	1.35, 2.35	<0.001	1.95	1.42, 2.68	<0.001	1.80	1.08, 3.01	0.024
<b>-5/5q-</b>	2.54	2.07, 3.12	<0.001				2.35	1.60, 3.45	<0.001			
<b>-7/7q-</b>	2.24	1.84, 2.74	<0.001				2.02	1.36, 3.01	<0.001			
<b>t(8;21)</b>	0.38	0.20, 0.72	0.003				0.68	0.34, 1.39	0.29			
<b>Inv 16</b>	0.12	0.04, 0.32	<0.001				0.25	0.09, 0.67	0.006			
<b>Del 12</b>	2.34	1.57, 3.48	<0.001				2.33	0.96, 5.68	0.062			
<b>Trisomy 6</b>	2.27	1.28, 4.02	0.005				1.08	0.27, 4.37	0.91			
<b>t(11q23)</b>	0.97	0.55, 1.71	0.91				2.23	1.04, 4.75	0.038			
<b>CEBPA Mut.</b>	0.54	0.39, 0.75	<0.001	0.75	0.53, 1.07	0.11	0.84	0.53, 1.33	0.46			
<b>FLT3 Mut.</b>	0.67	0.53, 0.85	<0.001				0.71	0.49, 1.02	0.067			
<b>DNMT3 Mut.</b>	0.77	0.62, 0.96	0.022				0.96	0.68, 1.36	0.82			
<b>KIT Mut.</b>	0.51	0.29, 0.91	0.023	0.68	0.36, 1.29	0.23	0.69	0.31, 1.56	0.37			
<b>RUNX1 Mut.</b>	1.24	0.96, 1.60	0.11				1.89	1.19, 3.00	0.007	1.76	1.05, 2.95	0.032
<b>IDH2 Mut.</b>	0.64	0.49, 0.84	0.001	0.79	0.57, 1.09	0.15	0.65	0.41, 1.01	0.057			
<b>JAK2 Mut.</b>	1.97	1.37, 2.84	<0.001				1.61	0.75, 3.42	0.22			
<b>NPM1 Mut.</b>	0.58	0.45, 0.75	<0.001	0.72	0.52, 0.98	0.039	0.47	0.31, 0.70	<0.001	0.51	0.29, 0.90	0.021
<b>SRSF2 Mut.</b>	0.51	0.31, 0.84	0.008				0.60	0.27, 1.35	0.22			
<b>TP53 Mut.</b>	2.89	2.37, 3.53	<0.001	1.44	1.07, 1.95	0.017	2.62	1.83, 3.77	<0.001	1.30	0.73, 2.32	0.37

<sup>7</sup> HR = Hazard Ratio, CI = Confidence Interval