

**Supplementary Table1. Univariate and multivariate analyses for relapse and NRM.**

Relapse				
Variables	Univariate analyses		multivariate analyses	
	HR (95% CI)	<i>P</i>	HR (95% CI)	<i>P</i>
age	0.999(0.946-1.060)	0.980	-	-
Sex (female vs. male)	0.643(0.184-2.254)	0.490	-	-
Disease (ALL vs. AML)	1.213(0.421-3.493)	0.721	-	-
Risk stratification pre-HSCT1	0.294(0.104-0.830)	0.021	0.473(0.102-2.202)	0.340
Percentage of blasts	1.019(0.998-1.039)	0.072	1.013(0.996-1.040)	0.119
Time from HSCT1 to relapse ( $\leq 6$ m vs. $>6$ m)	8.925(2.536-31.410)	0.001	6.557(1.841-23.362)	0.004
Time from HSCT1 to HSCT2( $\leq 12$ m vs. $>12$ m)	3.888(1.443-10.472)	0.007	1.596(0.241-10.585)	0.628
Conditioning regimen in HSCT2(TBI vs. BU)	0.334(0.088-1.270)	0.110	-	-
Donor (change donor vs. original donor)	0.203(0.046-0.897)	0.035	0.293(0.063-1.362)	0.117
NRM				
Univariate analyses				
Variables	HR (95% CI)	<i>P</i>		

age	1.033(0.972-1.099)	0.295
Sex (female vs. male)	0.761(0.147-3.950)	0.745
Disease (ALL vs. AML)	0.507(0.061-4.255)	0.532
Risk stratification pre-HSCT1	0.400(0.094-1.693)	0.213
Percentage of blasts	1.013(0.981-1.047)	0.435
Time from HSCT1 to relapse ( $\leq 6$ m vs. $>6$ m)	1.381(0.186-10.230)	0.750
Time from HSCT1 to HSCT2( $\leq 12$ m vs. $>12$ m)	1.418(0.333-6.036)	0.637
Conditioning regimen in HSCT2(TBI vs. BU)	0.328(0.086-1.240)	0.560
Donor (change donor vs. original donor)	1.846(0.460-7.413)	0.388