

SUPPLEMENTARY INFORMATION

Prognostic impact of a lymphocyte activation-associated gene signature in GBM based on transcriptome analysis

Yujia Lan^{1,†}, Erjie Zhao^{1,†}, Xinxin Zhang^{1,†}, Xiaojing Zhu¹, Linyun Wan¹, Suru A¹, Yihan Wang^{1,*} and Yanyan Ping^{1,*}

¹ College of Bioinformatics Science and Technology, Harbin Medical University, Harbin, Heilongjiang 150086, China.

[†] **Contributed equally to this work.**

*** Corresponding authors:**

Yanyan Ping, PhD, College of Bioinformatics Science and Technology, Harbin Medical University, Harbin 150081, China. Email: pingyanyan@hrbmu.edu.cn

Yihan Wang, PhD, College of Bioinformatics Science and Technology, Harbin Medical University, Harbin 150081, China. Email: wangyihan@hrbmu.edu.cn

5 Supplementary Figures

2 Supplementary Tables

Supplementary Figures

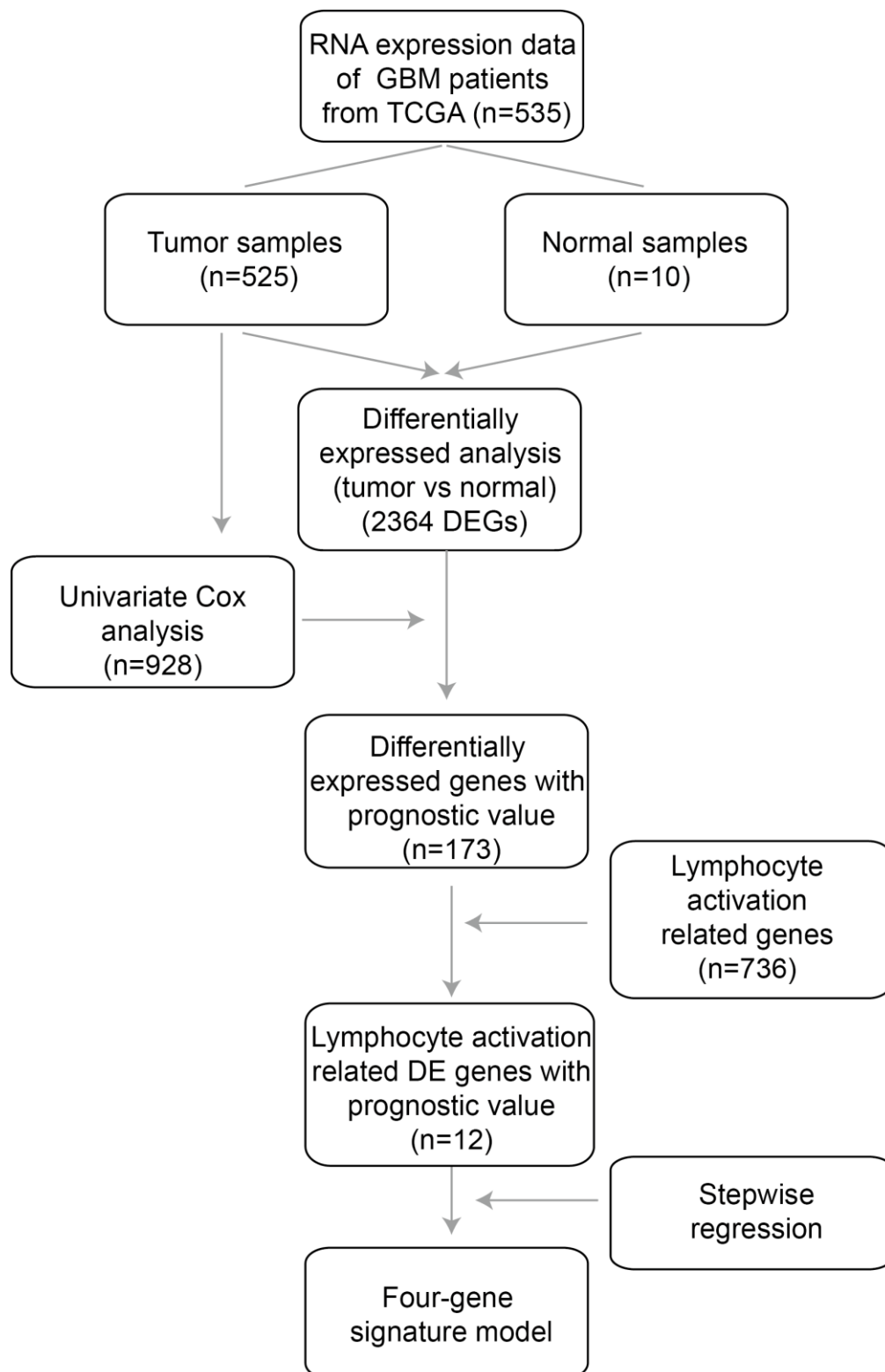


Figure S1 The workflow of identification of the lymphocyte activation-associated gene signature.

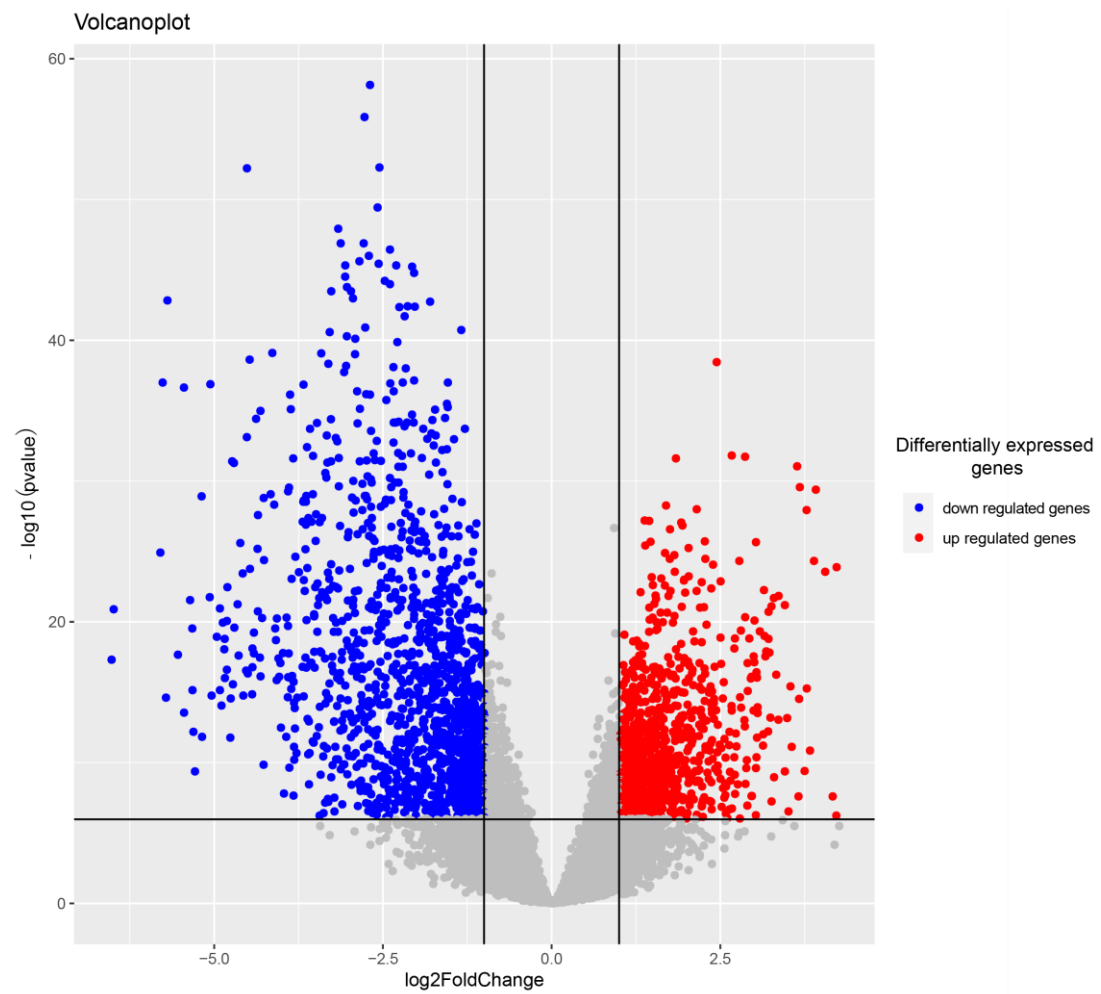


Figure S2 The volcano plot of differentially expressed genes between cancer and normal cases in the TCGA dataset.

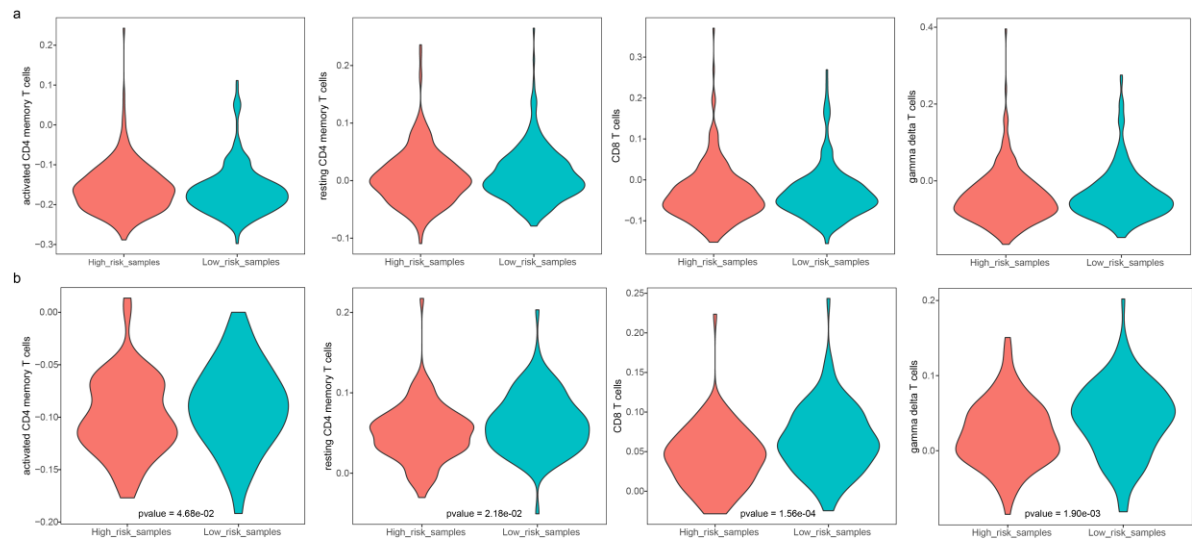


Figure S3 The cell activity of lymphocytes (activated CD4 memory T cells, resting CD4 memory T cells, CD8 T cells and gamma delta T cells) in TCGA (a) and GSE13041 (b) data set.

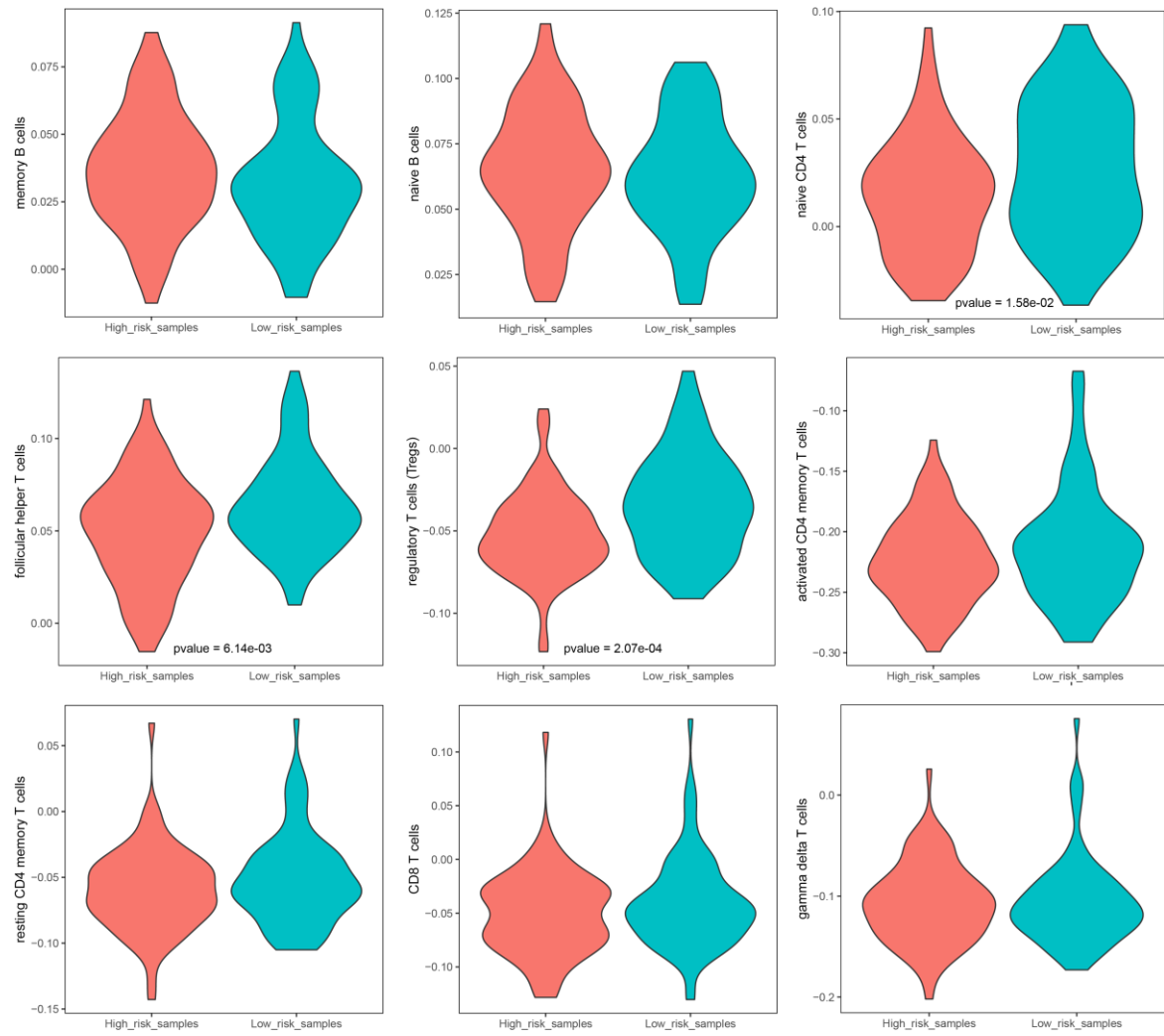


Figure S4 The lymphocyte activity in GSE16011 data set.

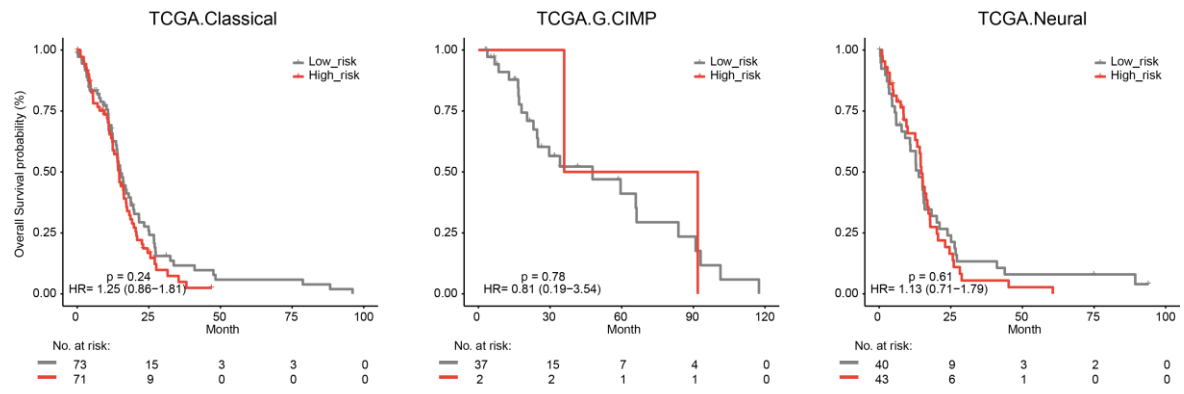


Figure S5 Survival analysis for GBM patients according to TCGA neural and classical subtypes.

Supplementary Tables

Table S1 Multivariate analysis for the lymphocyte activation-associated gene signature of overall survival in GSE13041.

Variables		Univariate			Multivariate		
		HR	95% CI	p value	HR	95% CI	p value
Age		1.025	1.013-1.037	<0.001*	1.024	1.012-1.036	<0.001*
Sex	Male vs Female	0.961	0.708-1.303	0.796	0.947	0.695-1.291	0.731
Signature	High_risk vs Low_risk	1.421	1.053-1.916	0.021*	1.33	0.98-1.805	0.067

Significant *P* values are labeled with * ($P < 0.05$).

Table S2 The C-index between clinical factors and the signature in three data sets.

		C-index	95% CI	p value
TCGA				
	Age	0.645	0.615-0.675	-
	Signature	0.547	0.520-0.573	<0.001
	Sex	0.511	0.484-0.537	<0.001
	Combination	0.646	0.616-0.675	0.040
GSE16011				
	Age	0.659	0.607-0.712	-
	Signature	0.564	0.518-0.610	<0.001
	Sex	0.510	0.467-0.552	<0.001
	Combination	0.665	0.613-0.717	0.129
GSE13041				
	Age	0.595	0.546-0.645	-
	Signature	0.541	0.499-0.582	0.033
	Sex	0.510	0.469-0.551	<0.001
	Combination	0.600	0.549-0.649	0.050