

Supplementary Figure legend

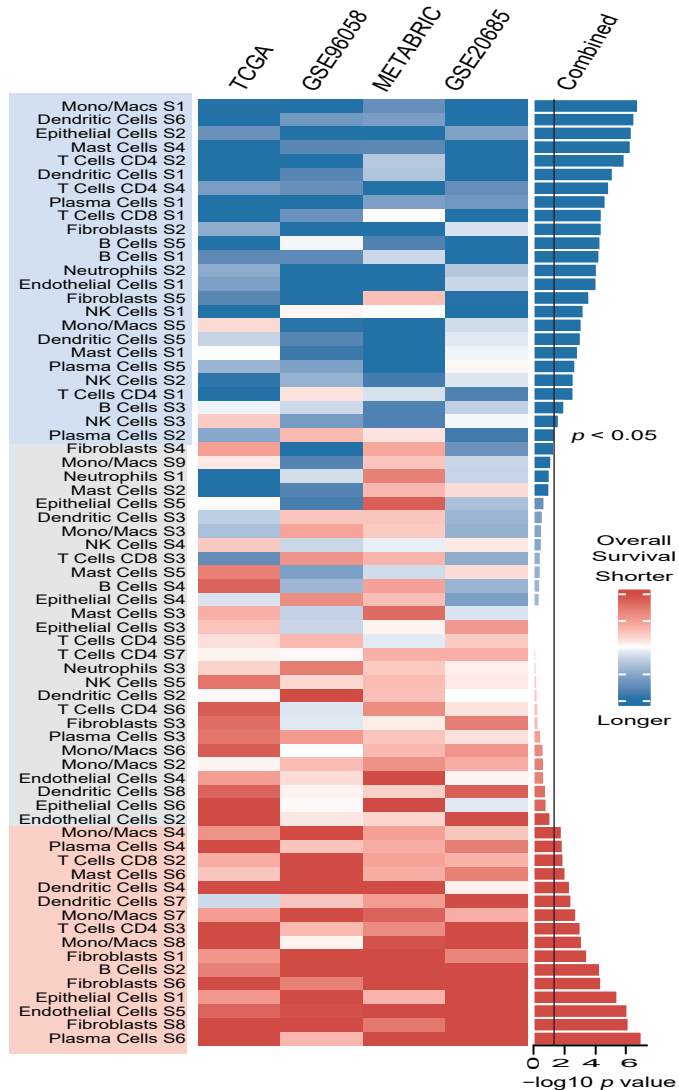
Fig S1. Univariate cell state survival associations in four independent cohorts.

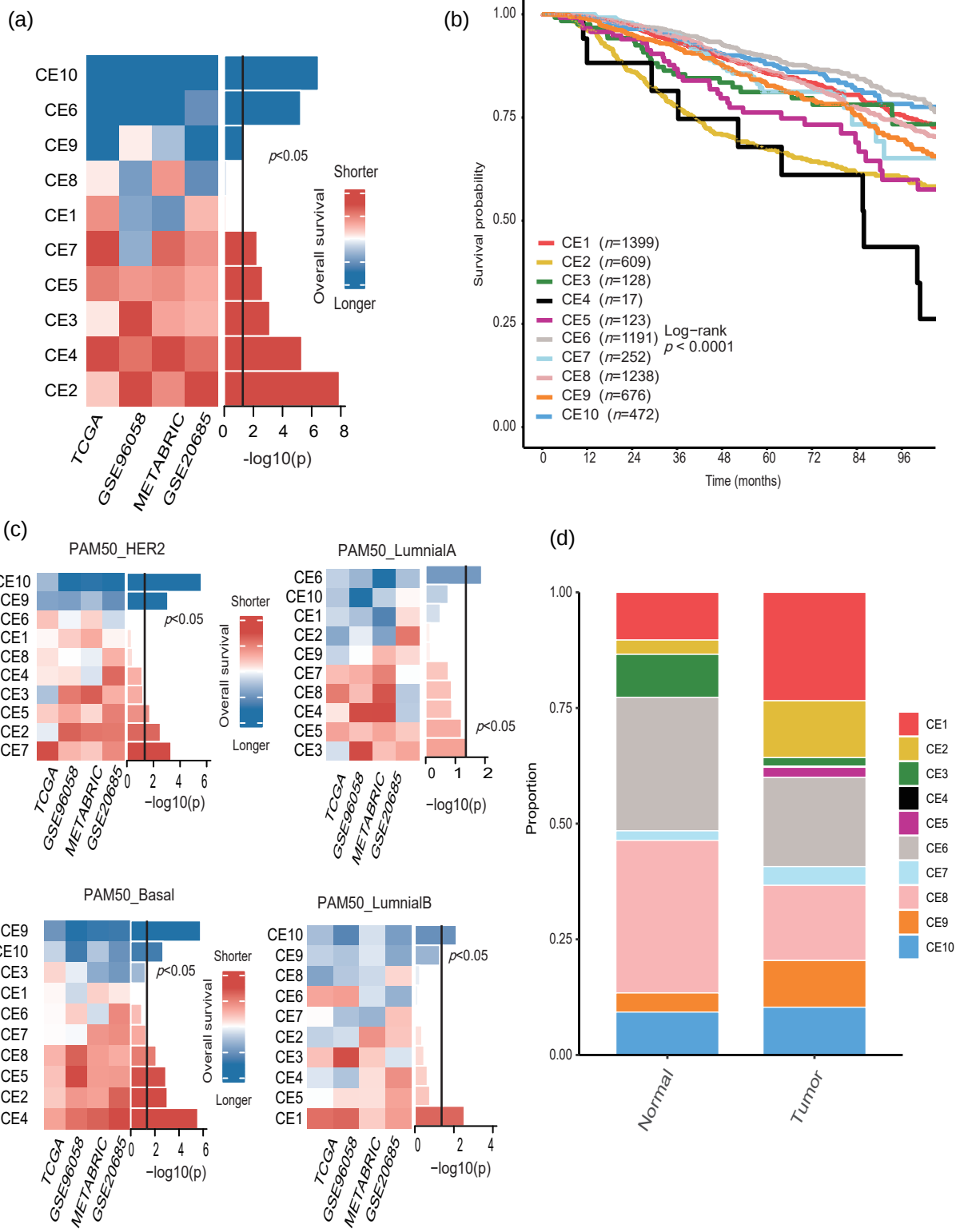
colored by favorable (blue) or adverse (red) survival

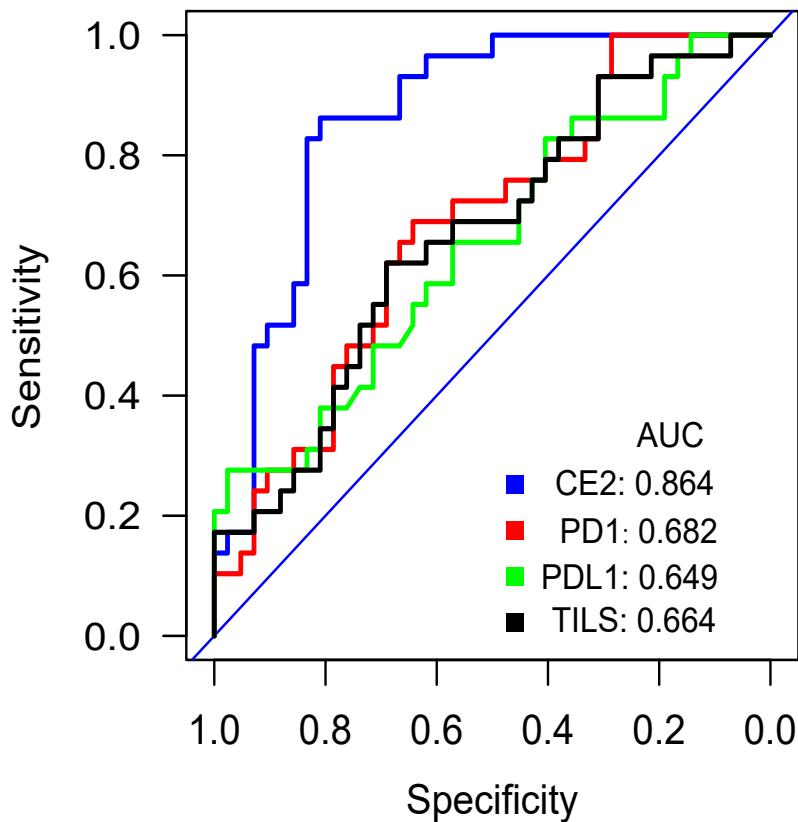
Fig S2. (a) Univariable associations of carcinoma ecotypes with OS **(b)** The Kaplan-Meier plot of 10 carcinoma ecotypes in the pooled cohort. **(c)** Multivariate carcinoma ecotypes survival associations in each PAM50 subtype **(d)** Bar chart showing the carcinoma ecotypes distribution among normal and tumor patients in the TCGA-BRCA dataset.

Fig S3. The ROC curves of CE2 and other biomarkers for predicting pCR following immunotherapy in the GSE173839 dataset.

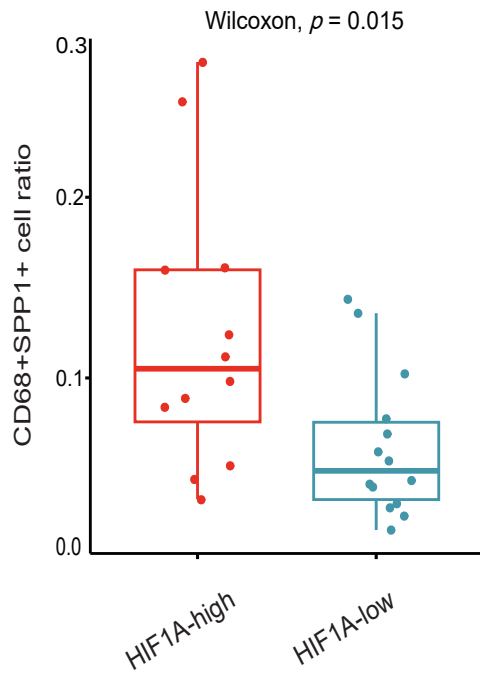
Fig S4. Box plot showing the differences of **(a)** CD68+SPP1+ and **(b)** HIF1A+ α SMA+ cell ratio in HIF1A-high versus low regions of TNBC tumors from six patients.







(a)



(b)

