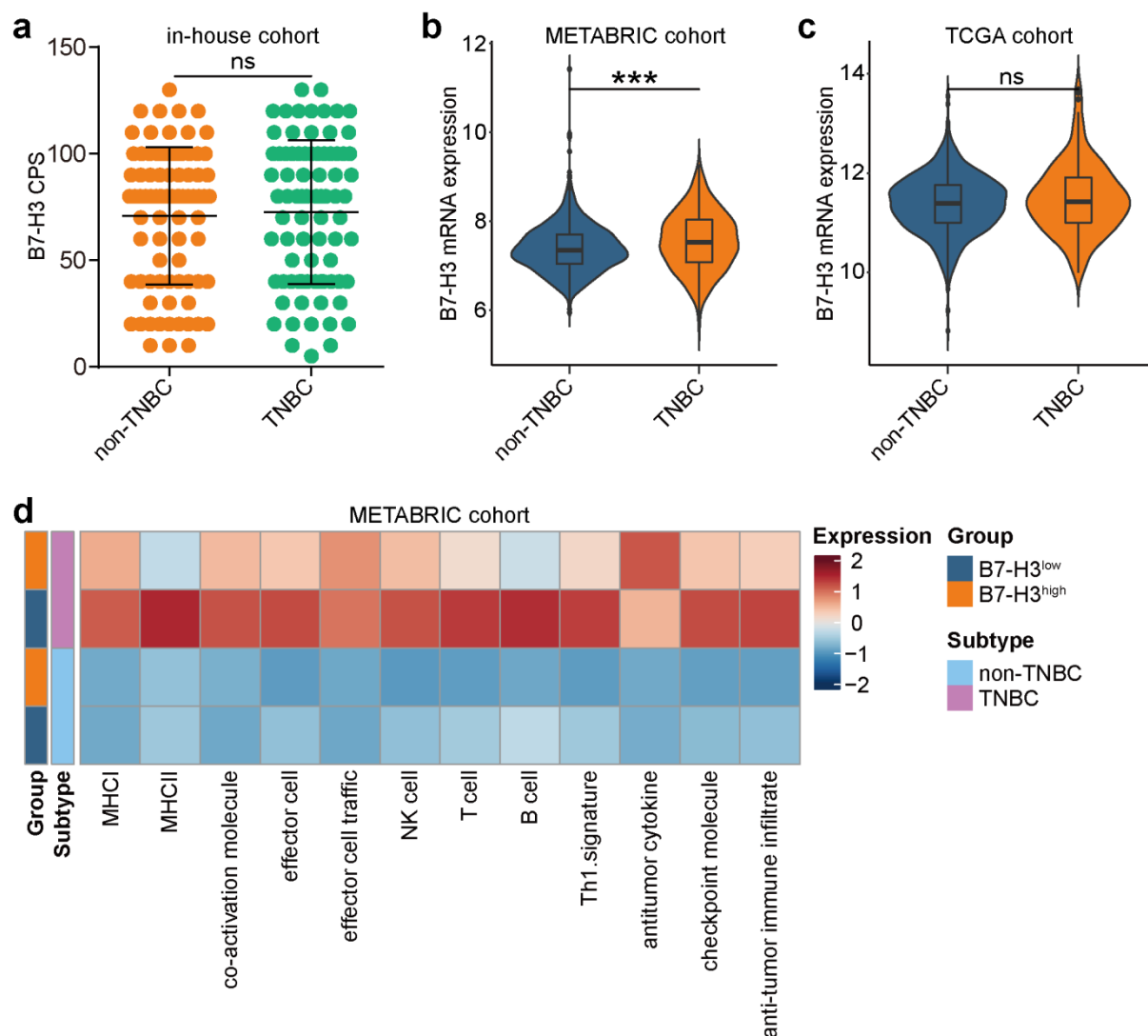
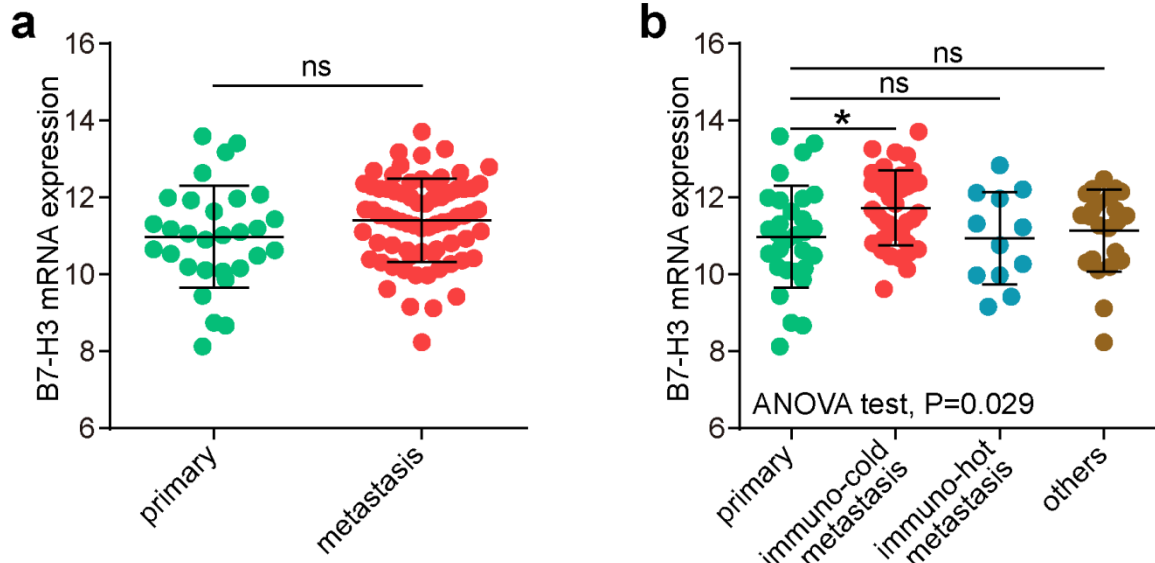


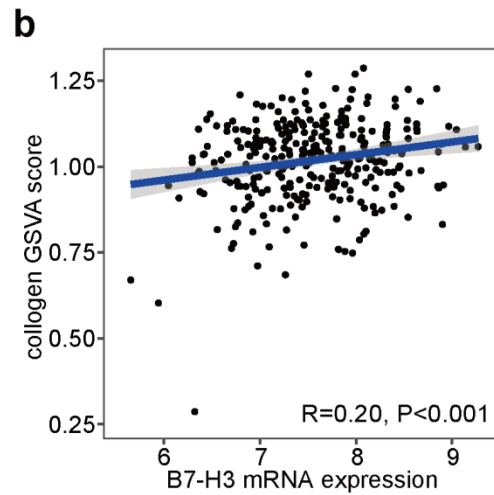
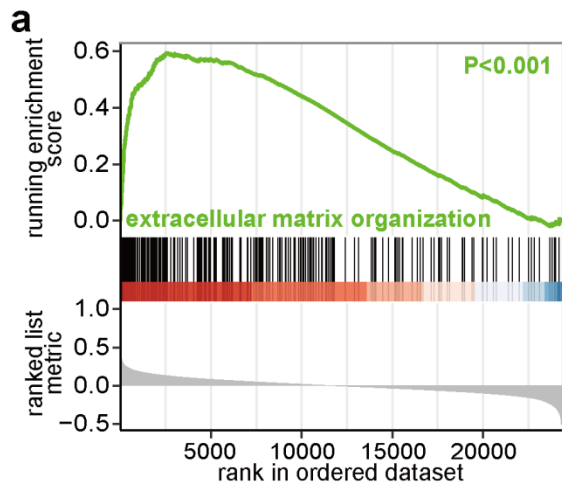
Supplementary files



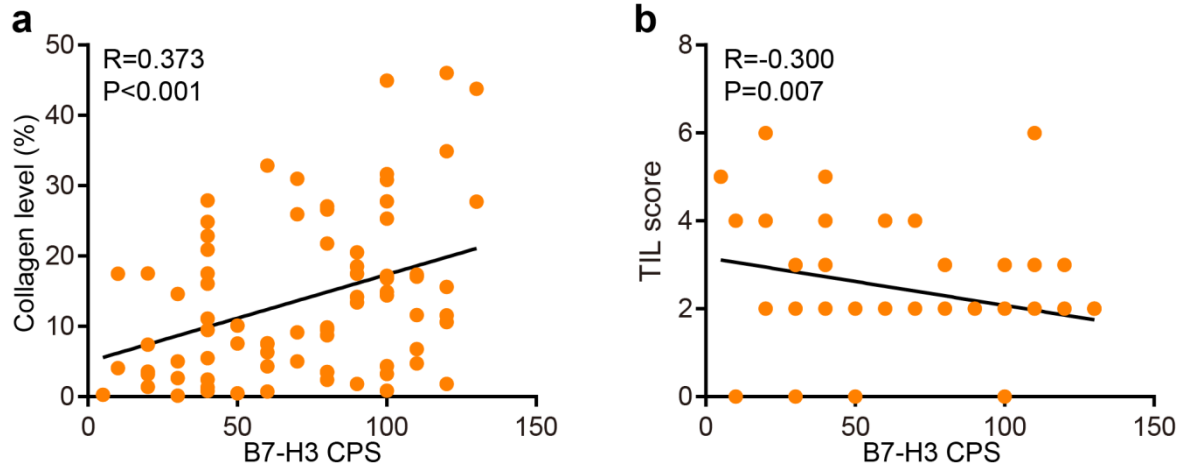
Supplementary Figure 1. Expression of B7-H3 in TNBC and non-TNBC samples. (a-c) B7-H3 expression in TNBC and non-TNBC samples. a: The in-house cohort, Data presented as mean \pm SD. b: The TCGA cohort. c: The METABRIC cohort. Significance was calculated with Student's t test. (d) Anti-tumor immune infiltration levels in non-TNBC and TNBC samples with the low and high B7-H3 expression in the METABRIC cohort.



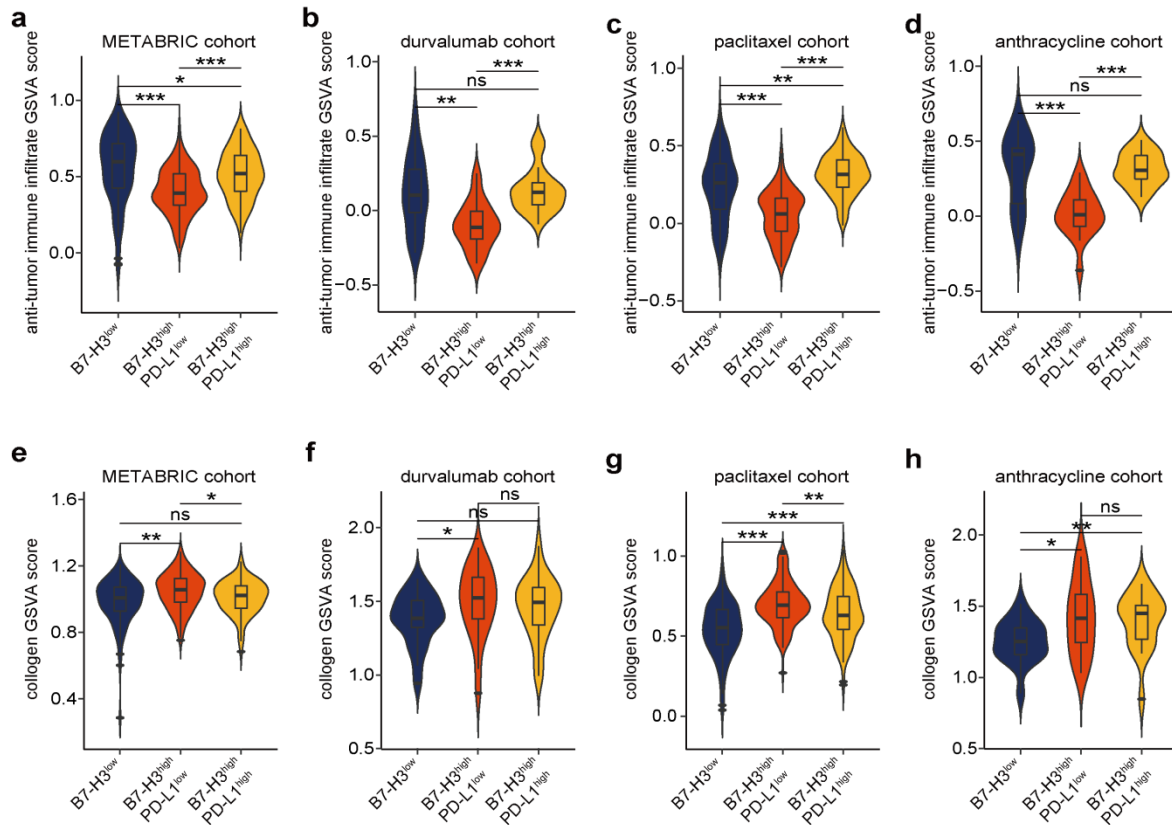
Supplementary Figure 2. Expression of B7-H3 in primary and metastatic TNBC tissues. (a) Expression of B7-H3 in primary and metastatic tissues at all organs. Data presented as mean \pm SD. Significance was calculated with Student's t test. (b) Expression of B7-H3 in primary and immuno-hot metastasis, immuno-cold metastasis, and other metastasis. Data presented as mean \pm SD. Significance was calculated with 1-way ANOVA with Tukey's multiple-comparison test.



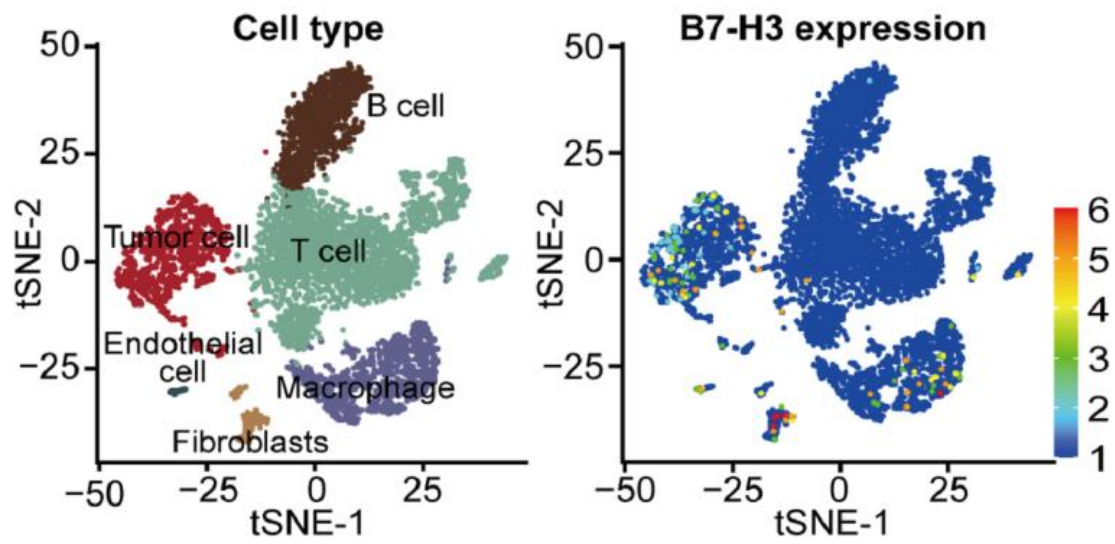
Supplementary Figure 3. Correlation between B7-H3 and collagen deposition in the METABRIC cohort. (a) GSEA revealing the association between B7-H3 and extracellular matrix organization. (b) Correlation between B7-H3 and collagen gene expression & collagen GSVA score. Significance was calculated with Pearson test.



Supplementary Figure 4. Correlation between B7-H3 expression and collagen level & TIL score in TNBC. (a) Positive correlation between B7-H3 expression and collagen levels. Significance was calculated with Pearson test. (b) Negative correlation between B7-H3 expression and immune cells infiltration. Significance was calculated with Spearman test.



Supplementary Figure 6. TIME features of three subtypes in four different cohorts. (a-d) Violin plot showing the difference in anti-tumor immune infiltration in TNBC samples in the B7-H3^{low}, the B7-H3^{high}&PD-L1^{low}, and the B7-H3^{high}&PD-L1^{high} subtypes in the METABRIC, durvalumab, the paclitaxel, and the anthracycline cohorts. Significance was calculated with 1-way ANOVA with Tukey's multiple-comparison test. (e-h) Difference of collagen infiltration in TNBC samples in the B7-H3^{low}, the B7-H3^{high}&PD-L1^{low}, and the B7-H3^{high}&PD-L1^{high} subtypes in the METABRIC, the durvalumab, the paclitaxel, and the anthracycline cohorts. Significance was calculated with 1-way ANOVA with Tukey's multiple-comparison test.



Supplementary Figure 7. t-SNE visualization of cell types in TNBC patients (the GSE180286 dataset) and B7-H3 expression.

Supplementary Table 1. Clinic-pathological parameters of patients in the recruited NAT cohort.

Clinic-pathological parameters	Case	Proportion
Age		
≤60	18	60.00%
>60	12	40.00%
T stage		
T2	20	66.67%
T3	5	16.67%
T4	5	16.67%
N stage		
N0	3	10.00%
N1	8	26.67%
N2	11	36.67%
N3	8	26.67%
M stage		
M0	28	93.33%
M1	2	6.67%
Miller-Payne grade		
1	1	3.33%
2	5	16.67%
3	8	26.67%
4	5	16.67%
5	9	30.00%
unknown	2	6.67%
Ki-67 positive rate		
≤60%	14	46.67%
>60%	16	53.33%

Supplementary Table 2. Public and in-house cohorts included in the current research.

Cohort	Case (TNBC case)	Source
Public cohort		
BC-METABRIC	1904 (298)	http://www.cbioportal.org/
BC-TCGA	1104 (145)	http://xenabrowser.net/datapages/
GSE173839	71 (21)	http://www.ncbi.nlm.nih.gov/geo/
PRJNA558949	50 TNBC	http://www.ncbi.nlm.nih.gov/bioproject/
GSE194040	988 (362)	http://www.ncbi.nlm.nih.gov/geo/
GSE34138	178 (55)	http://www.ncbi.nlm.nih.gov/geo/
GSE168846	21 mouse tumors	http://www.ncbi.nlm.nih.gov/geo/
GSE209998	30 primary	
GSE193103	72 metastasis	http://www.ncbi.nlm.nih.gov/geo/
GSE147322		
In-house cohort		
HBreD090Bc01	80 TNBC	Outdo BioTech
HBreD090Bc03	83 non-TNBC	Outdo BioTech
NAT cohort	30 TNBC	recruitment from multi-center