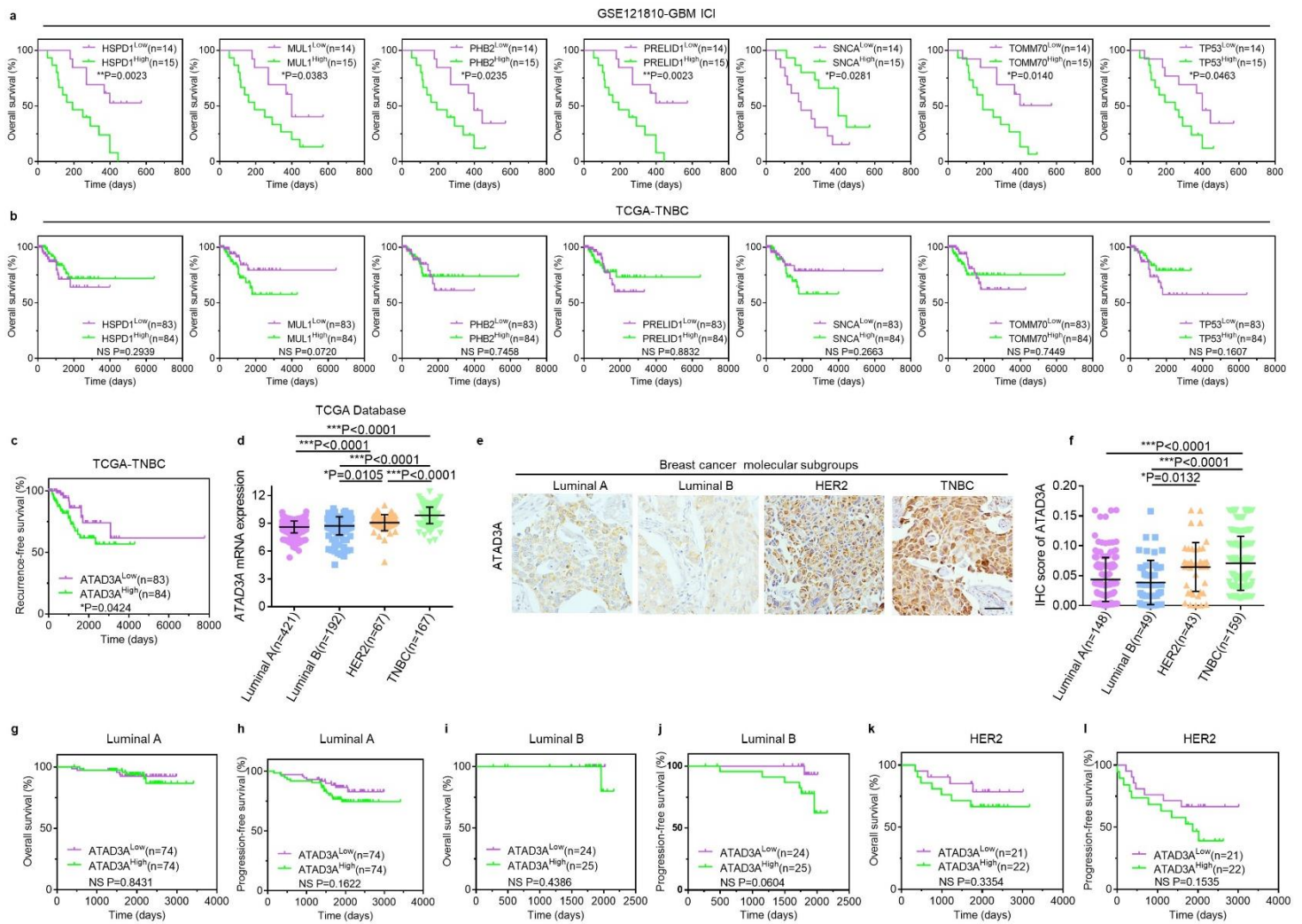


1 **Fig. S2**



2 **Fig. S2 The expression of ATAD3A and other candidate genes in the**

3 **immunotherapy cohort and breast cancer cohort.**

4 **a** Kaplan-Meier analysis of the overall survival of glioblastoma patients who received

5 anti-PD-1 antibody treatment with high or low mRNA expression of candidate genes

6 in tumors ($n = 29$). Data were derived from GSE121810 cohort. Cutoff of candidate

7 gene expression was determined by the median (Kaplan-Meier method and log-rank

8 test). **b** Kaplan-Meier analysis of the overall survival of TNBC patients with high or

9 low level of candidate genes. Data were derived from TCGA database. Cutoff was

10 determined by the median (Kaplan-Meier method and log-rank test). **c** Kaplan-Meier
11 analysis of the recurrence-free survival of TNBC patients with high or low ATAD3A
12 expression. Data were derived from TCGA database. Cutoff was determined by the
13 median (Kaplan-Meier method and log-rank test). **d** Quantification of ATAD3A
14 mRNA in luminal A ($n = 421$), luminal B ($n = 192$), HER2-overexpressing ($n = 67$)
15 and TNBC ($n = 167$). Data were derived from TCGA database (one-way ANOVA). **e**,
16 **f** Representative images (**e**) and quantification (**f**) of ATAD3A staining in tumor area
17 on serial sections from luminal A ($n = 148$), luminal B ($n = 49$), HER2 ($n = 43$) and
18 TNBC ($n = 159$). The data were derived from 399 breast cancer patients in the
19 multicentric clinical cohort of this study (one-way ANOVA). These patients
20 underwent radical mastectomy or modified mastectomy and received the standard
21 chemotherapy. Scale bars, 50 μm . **g**, **h** Kaplan-Meier analysis of the overall survival
22 (**g**) and progression-free survival (**h**) of luminal A breast cancer patients with high or
23 low ATAD3A expression. Cutoff of ATAD3A expression was determined by the
24 median (Kaplan-Meier method and log-rank test). **i**, **j** Kaplan-Meier analysis of the
25 overall survival (**i**) and progression-free survival (**j**) of luminal B breast cancer
26 patients with high or low ATAD3A expression (Kaplan-Meier method and log-rank
27 test). **k**, **l** Kaplan-Meier analysis of the overall survival (**k**) and progression-free
28 survival (**l**) of patients with HER2-overexpressing breast cancer with high or low
29 ATAD3A expression (Kaplan-Meier method and log-rank test).