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Supplemental information

Palmitoyl transferases act as potential regulators of tumor-infiltrating immune cells and glioma progression

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Figure legends

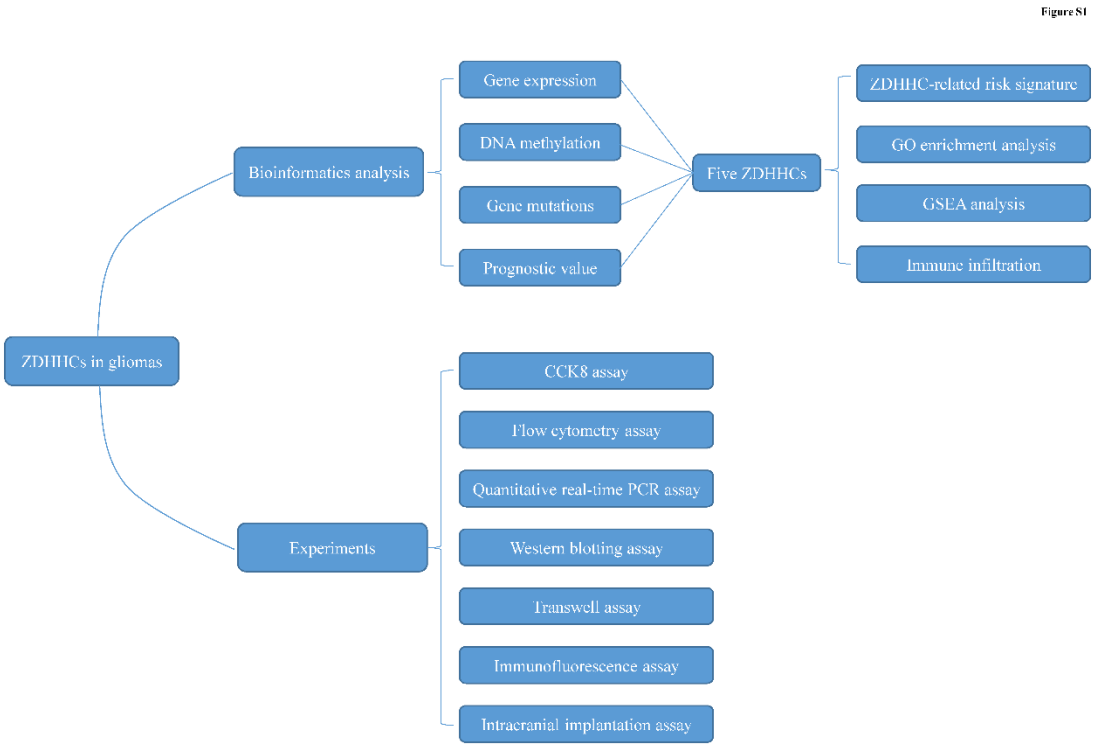

Figure S1 The summary of what we have done and how we have shown these certain parts of our results.

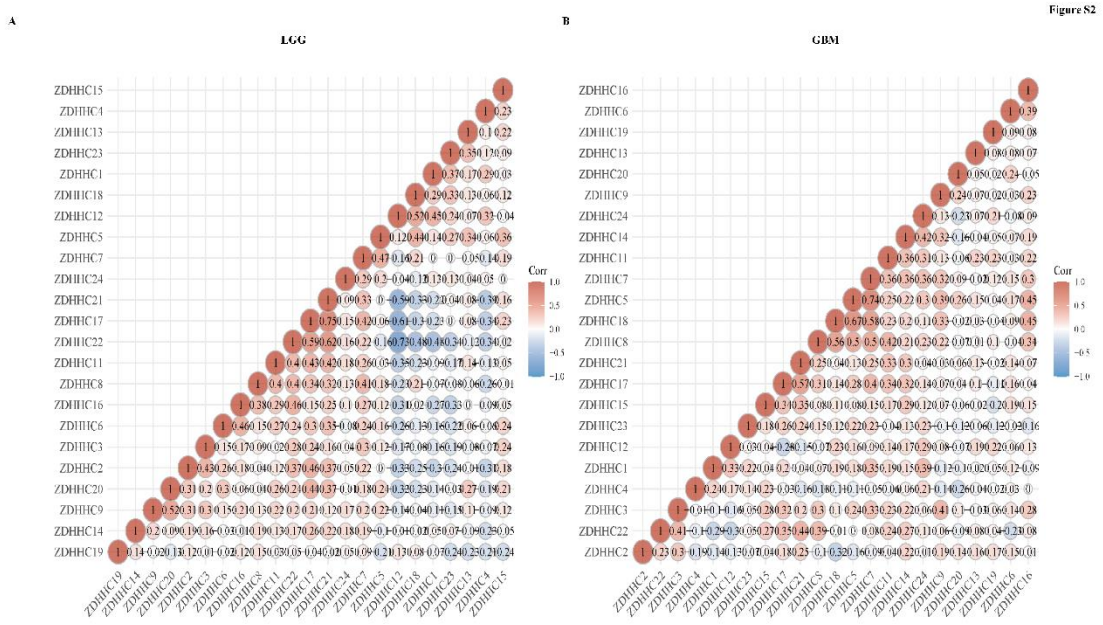

Figure S2 Pearson correlation among 23 ZDHHC genes in LGGs and GBMs.

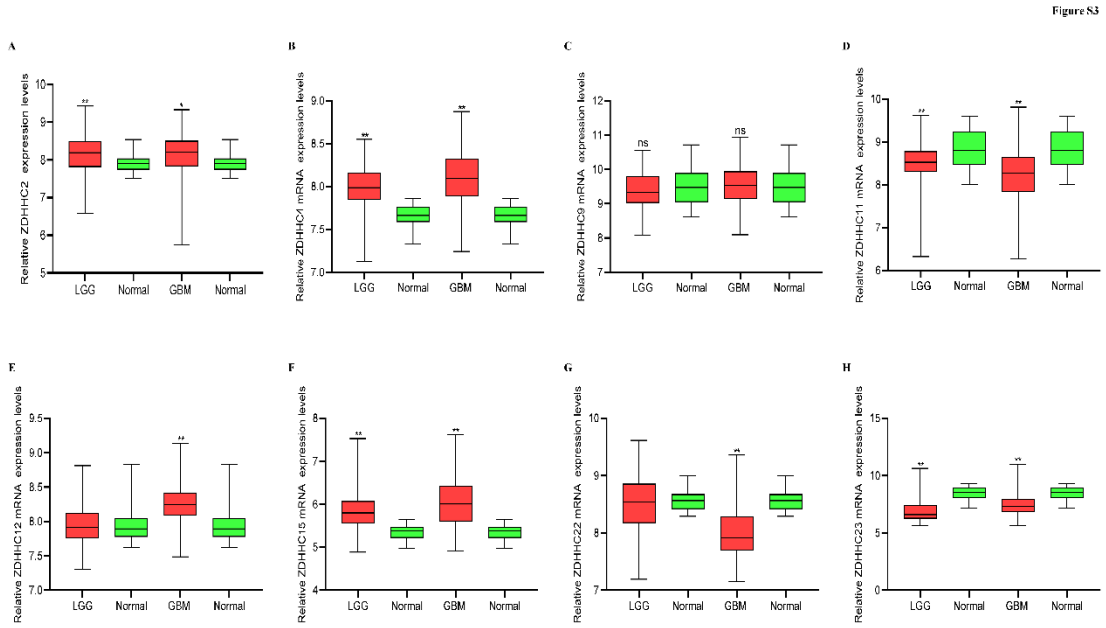

Figure S3 Relative mRNA expression levels of eight ZDHHCs in the Rembrandt database. *, $P < 0.05$; **, $P < 0.01$ compared with normal brain tissues.

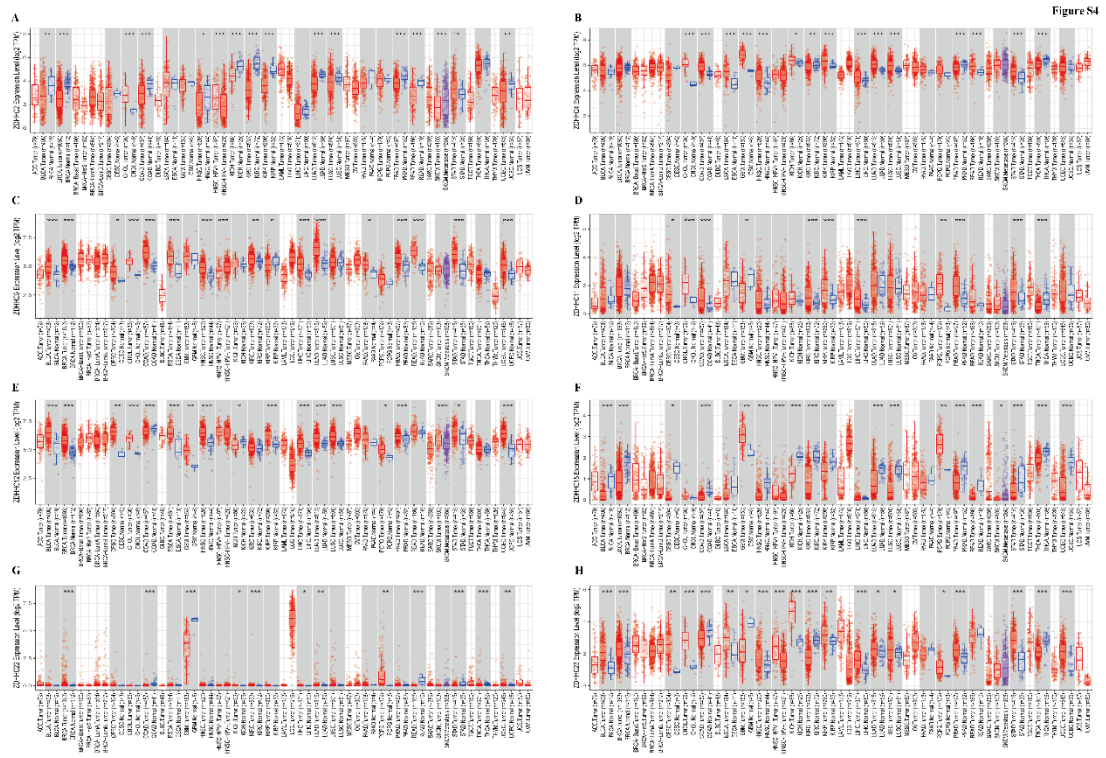

Figure S4 Relative mRNA expression levels of eight ZDHHCs in all tumor types. *, $P < 0.05$; **, $P < 0.01$; ***, $P < 0.001$compared with corresponding normal tissues.

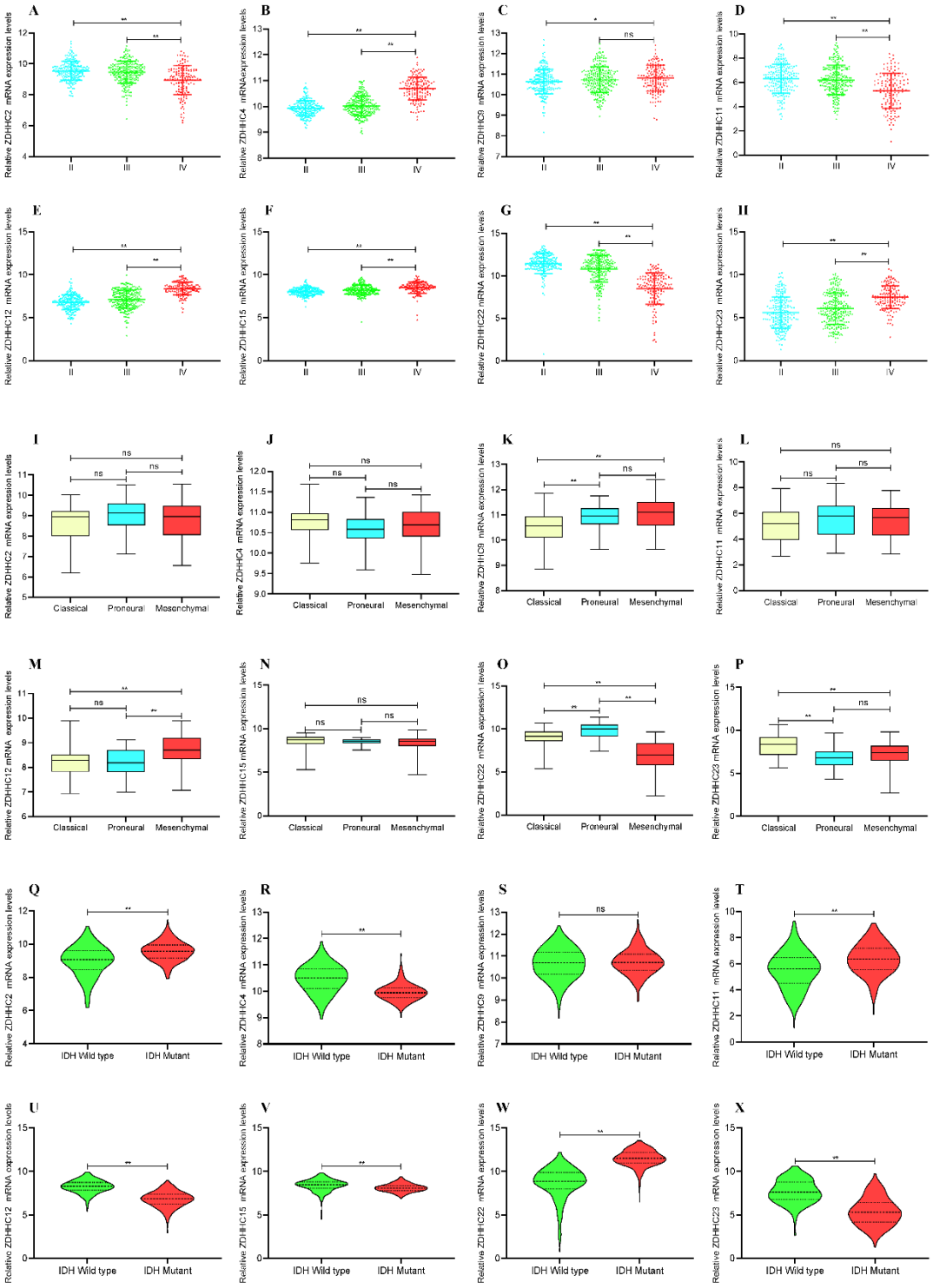

Figure S5 Correlation of eight ZDHHCs among tumor grade, molecular types, and IDH mutant status. A-H. Correlation of eight ZDHHCs and tumor grade. *, $P < 0.05$; **, $P < 0.01$; ns, $P > 0.05$ compared with grade IV. I-P. Correlation of eight ZDHHCs and

molecular types. **, $P < 0.01$; ns, $P > 0.05$ compared with classical. Q-X Correlation of eight ZDHHCs and IDH mutant status. **, $P < 0.01$; ns, $P > 0.05$ compared with IDH wild type.

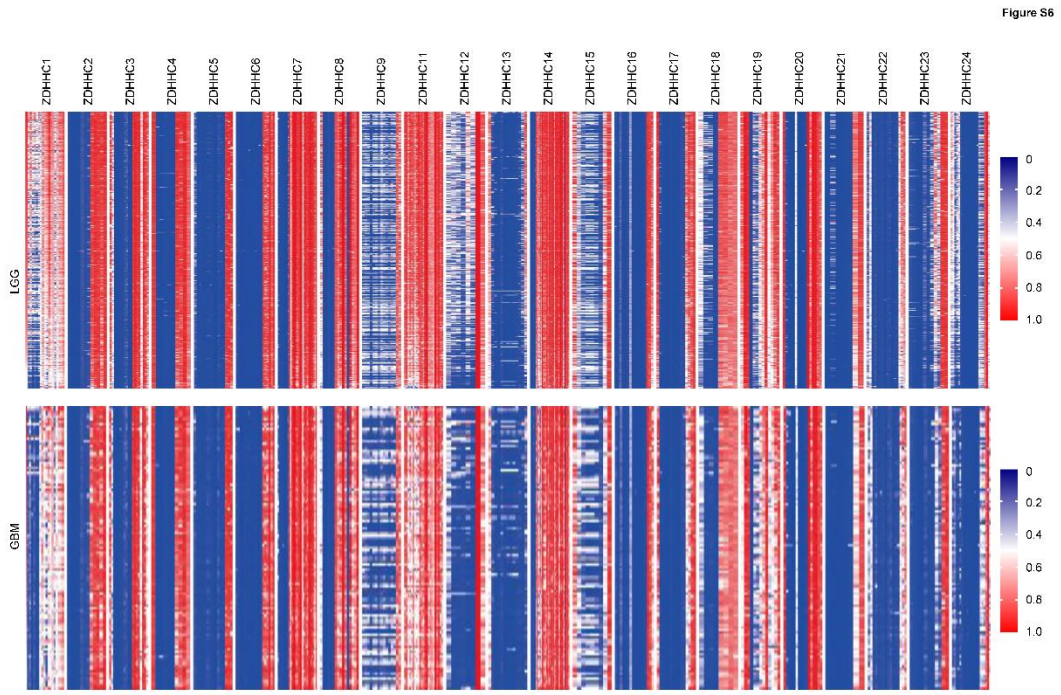

Figure S6 Methylation levels of ZDHHC genes in gliomas.

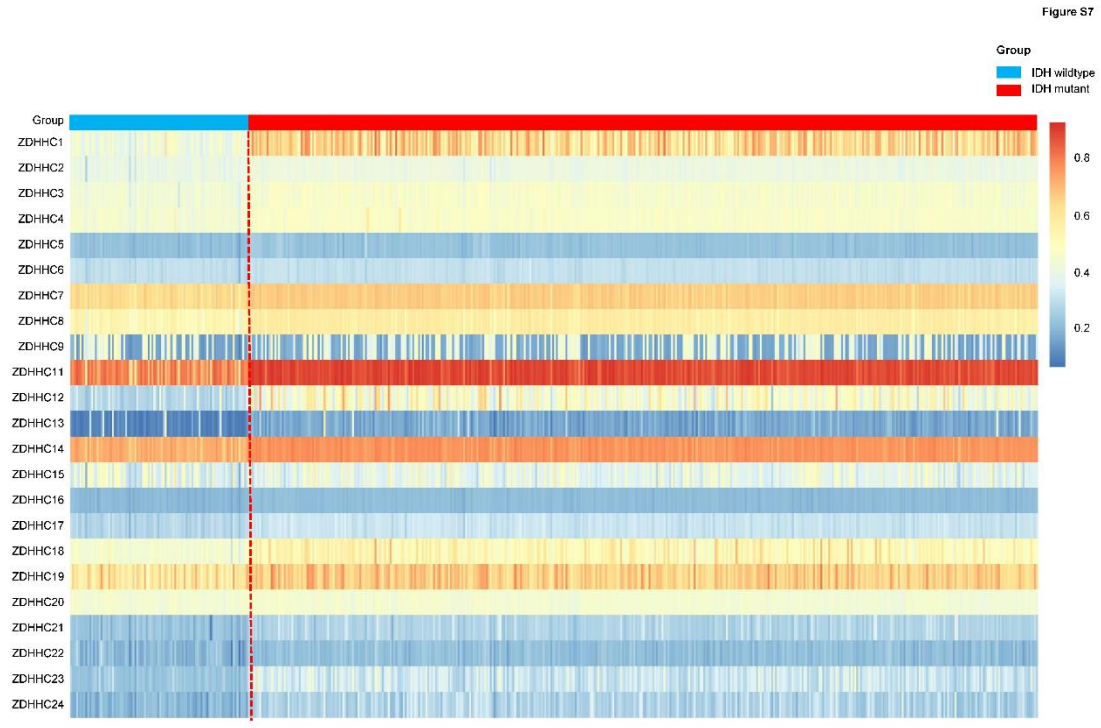

Figure S7 The difference of methylation levels of ZDHHC genes between IDH wild-

type and mutant gliomas.

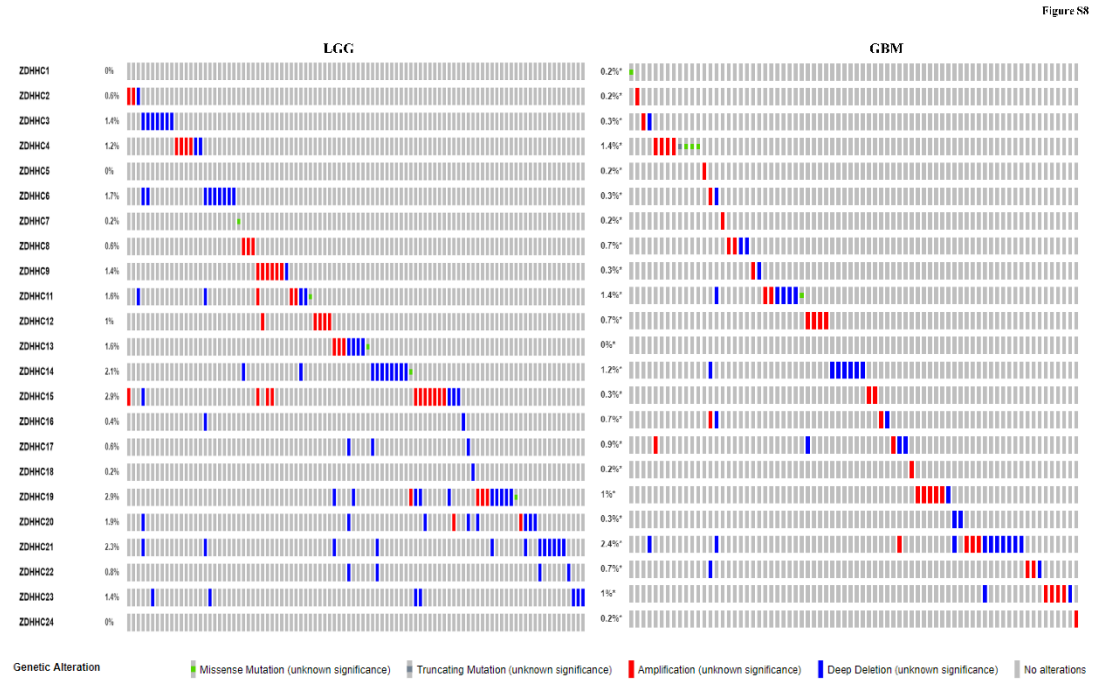

Figure S8 Oncoprint visualization of genomic alterations of ZDHHCs in LGGs and GBMs.

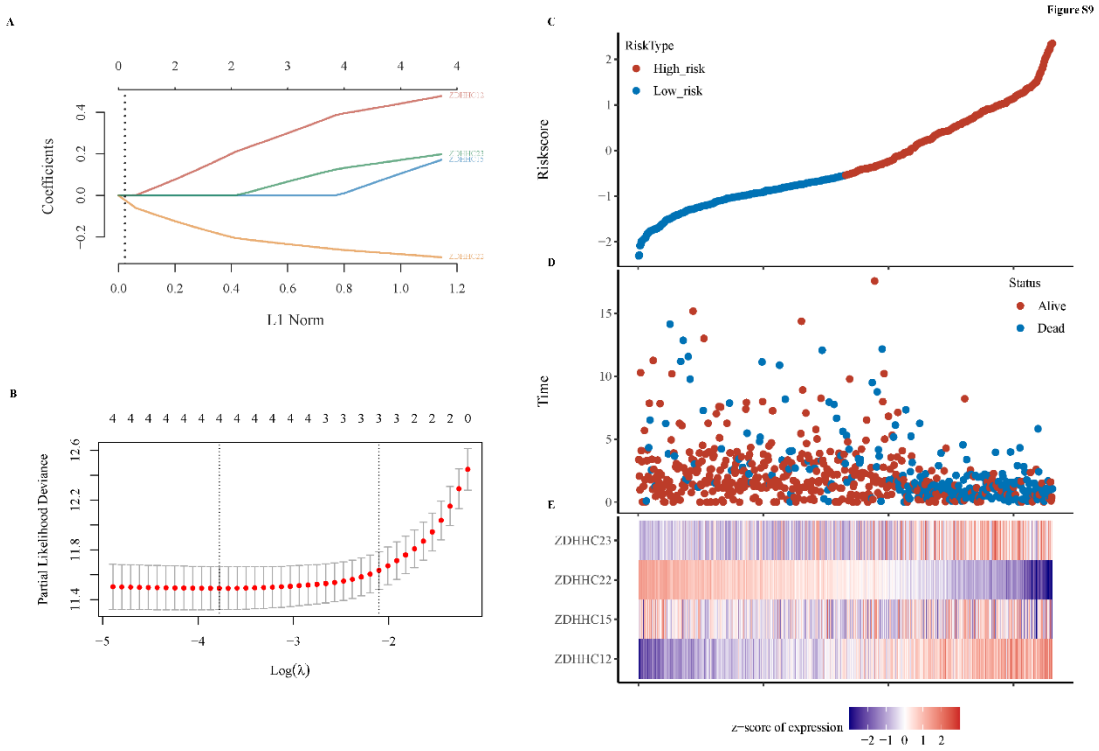

Figure S9 Lasso regression model was conducted to identify the most significant

survival-associated ZDHHCs in gliomas.

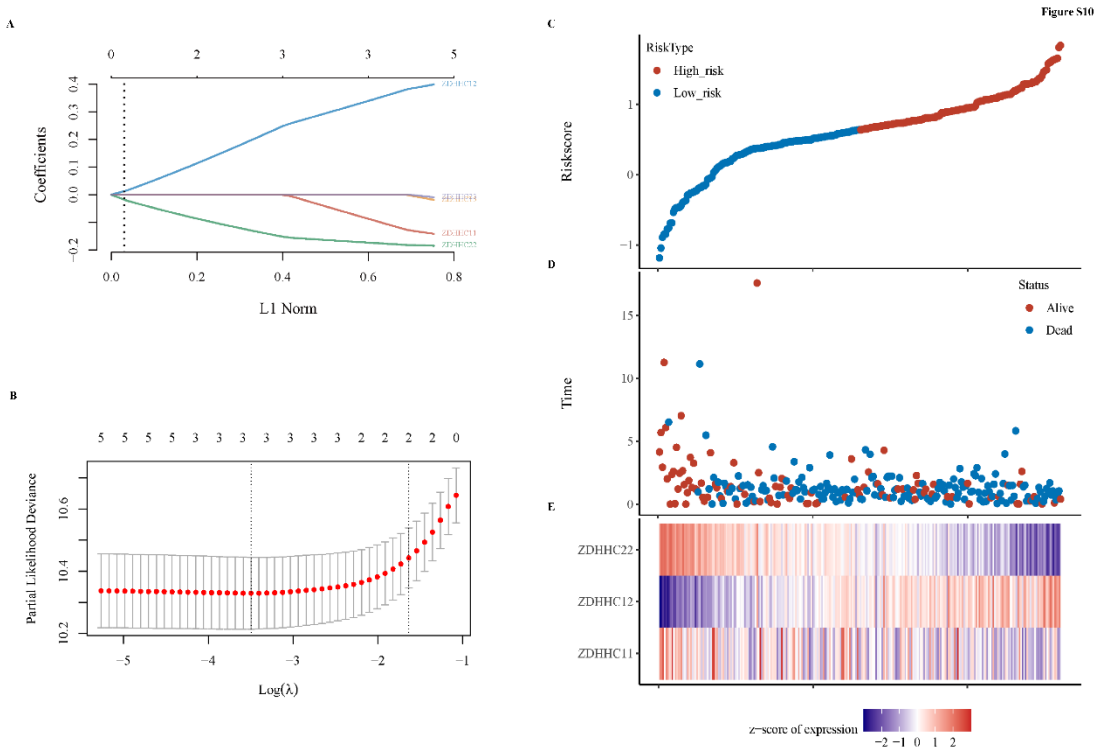

Figure S10 Lasso regression model was conducted to identify the most significant survival-associated ZDHHCs in IDH wild-type gliomas.

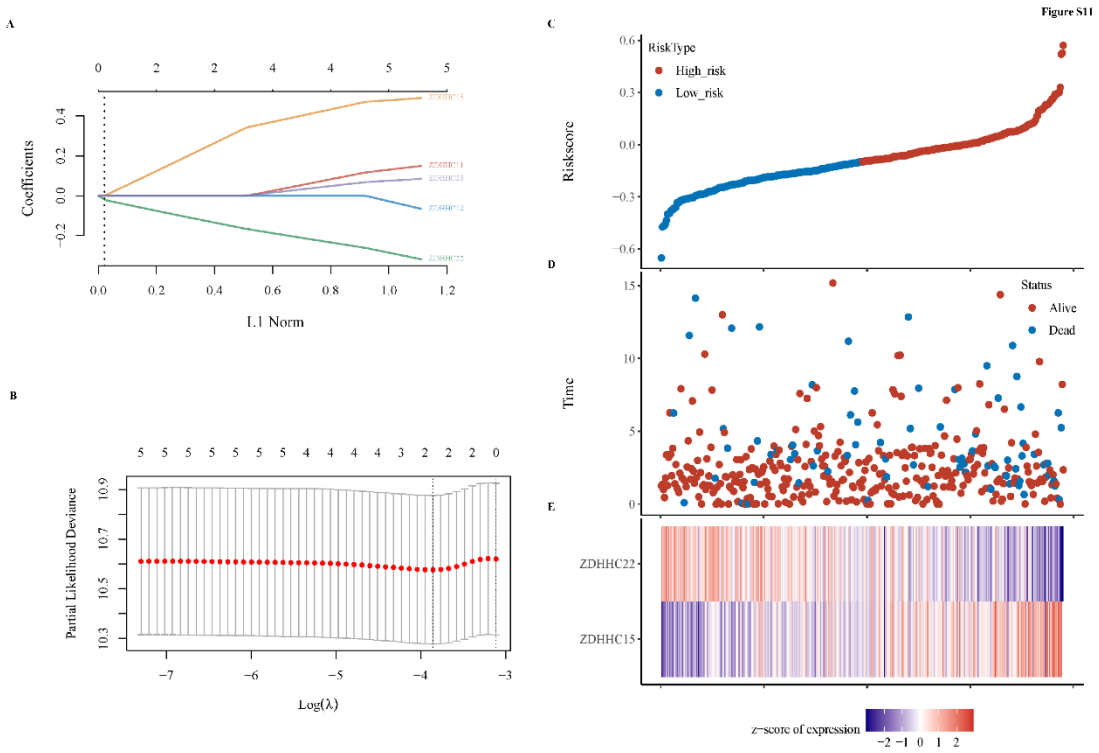

Figure S11 Lasso regression model was conducted to identify the most significant survival-associated ZDHHCs in IDH mutant gliomas.

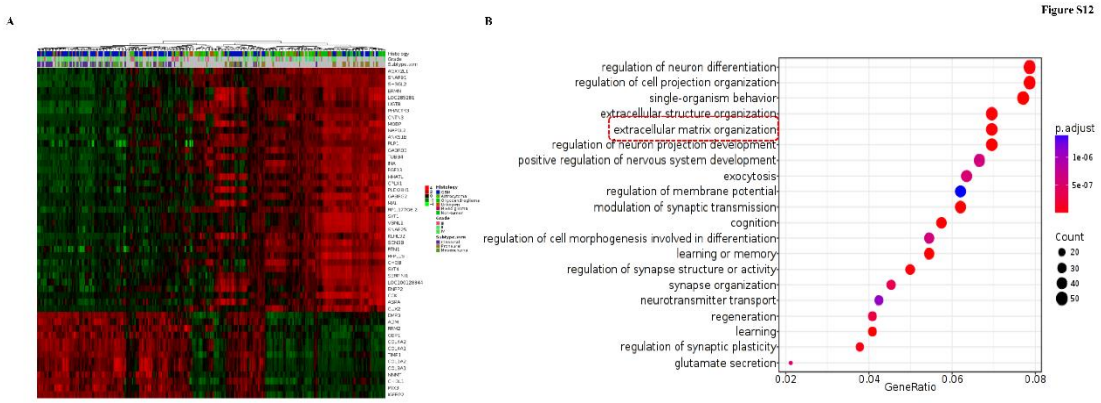

Figure S12 GO enrichment analysis of ZDHHC11 in gliomas. A. The top-50 genes related to ZDHHC11 expression. B. The top-10 GO terms in the ZDHHC11-associated biological processes.

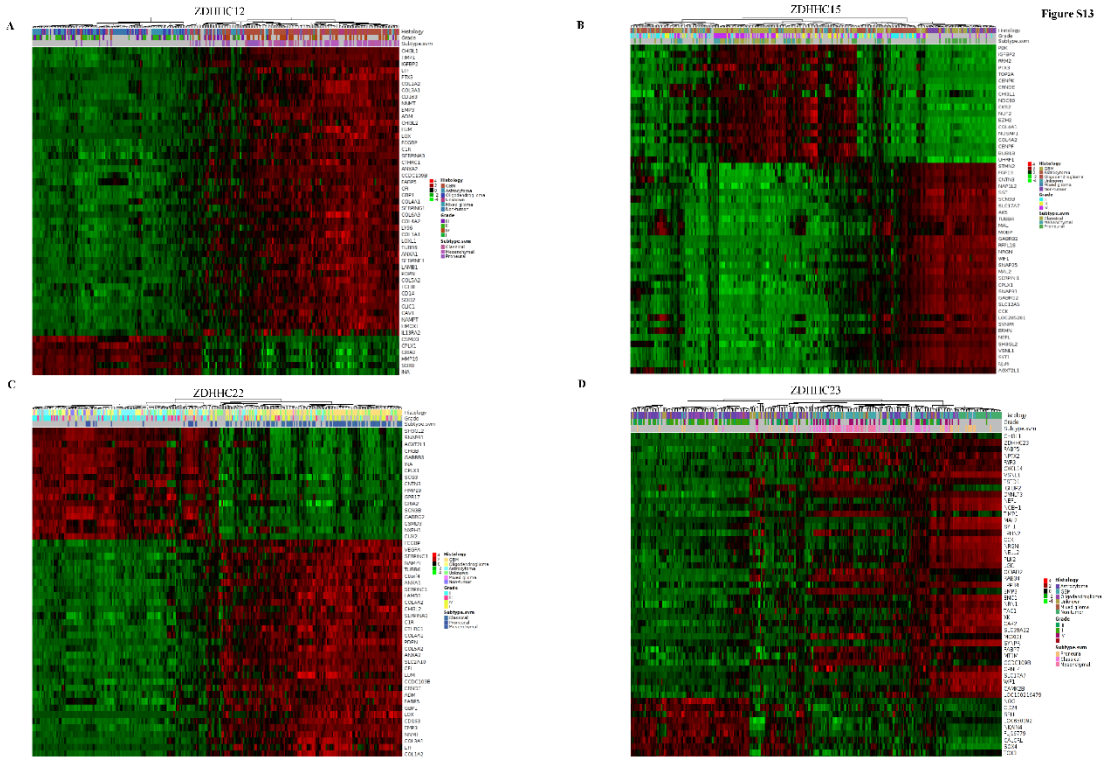

Figure S13 The top-50 genes related to ZDHHC12, 15, 22, 23 expression, respectively.

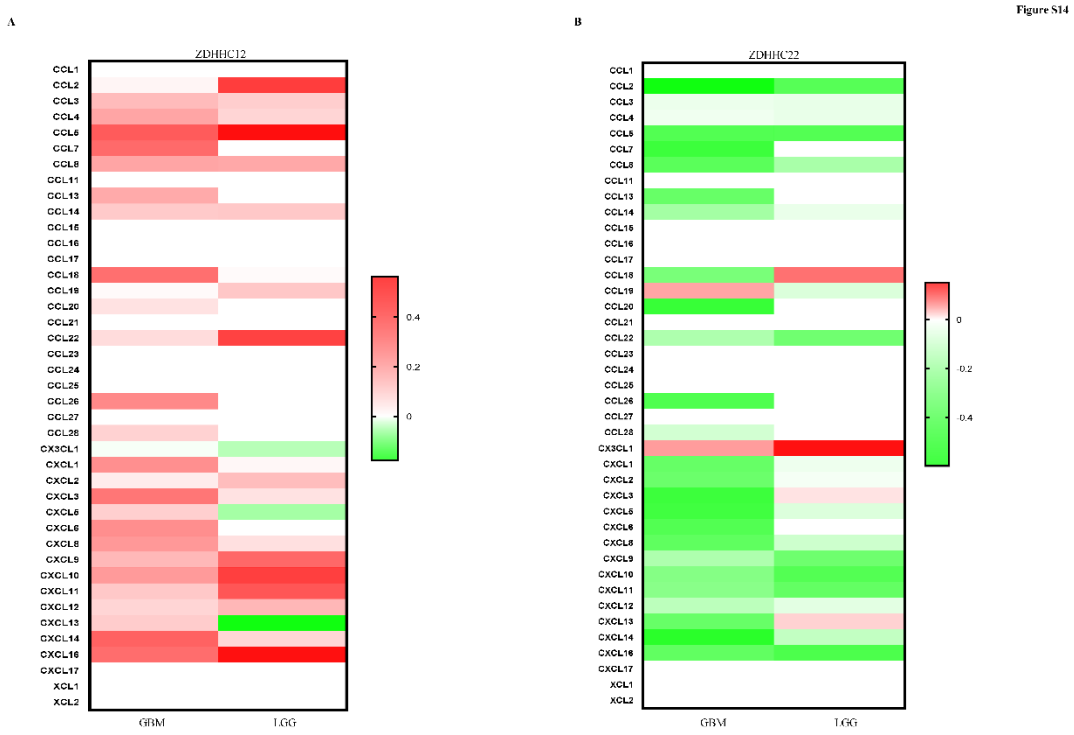

Figure S14 Correlation of ZDHHCs and chemokines. A. Relationship between ZDHHC12 expression and levels of chemokines. B. Relationship between ZDHHC22 expression and levels of chemokines.

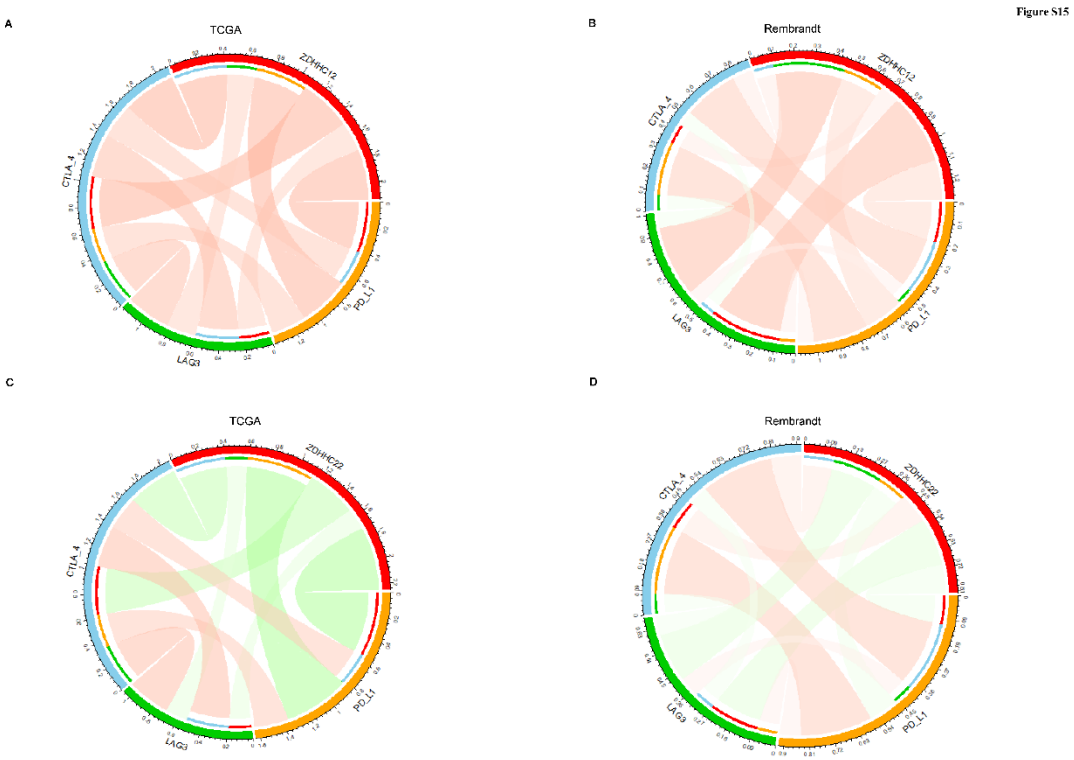

Figure S15 Correlation of ZDHHCs and immune check points. A-B. Relationship between ZDHHC12 expression and immune check points expression in both TCGA and Rembrandt database. C-D. Relationship between ZDHHC22 expression and immune check points expression in both TCGA and Rembrandt database.

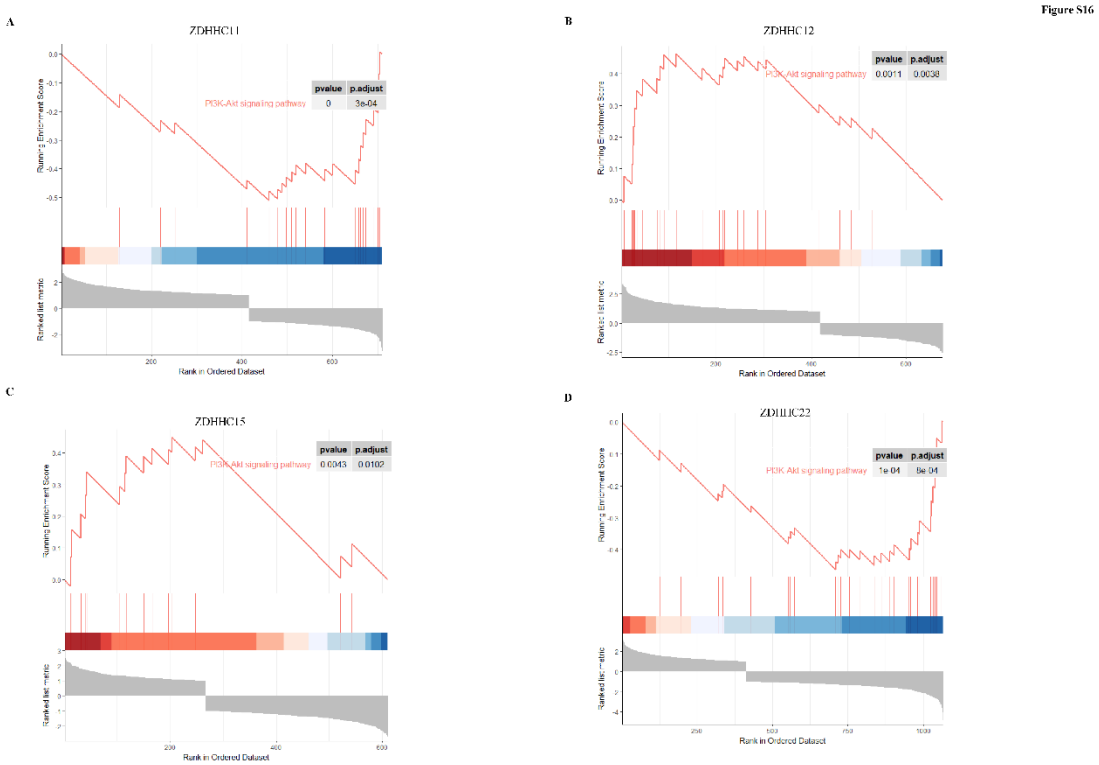

Figure S16 GSEA analysis of ZDHHCs in gliomas. A–D. ZDHHC11, ZDHHC12, ZDHHC15, and ZDHHC22 are involved in the PI3K/AKT signaling pathway.

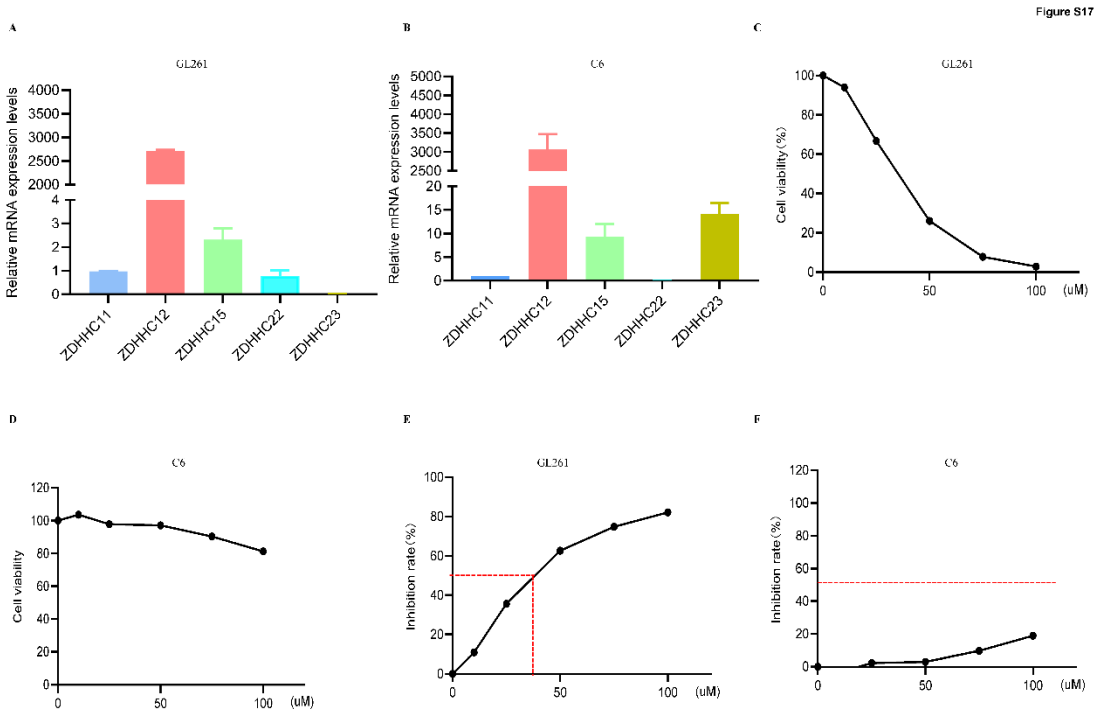

Figure S17 Relative ZDHHCs expression and IC_{50} values of 2-BP in glioma cells. A-B Relative ZDHHCs expression in GL261 and C6 cell lines. C-F. Effects of different concentrations of 2-BP on glioma cell viability, and corresponding IC_{50} values of glioma cells.

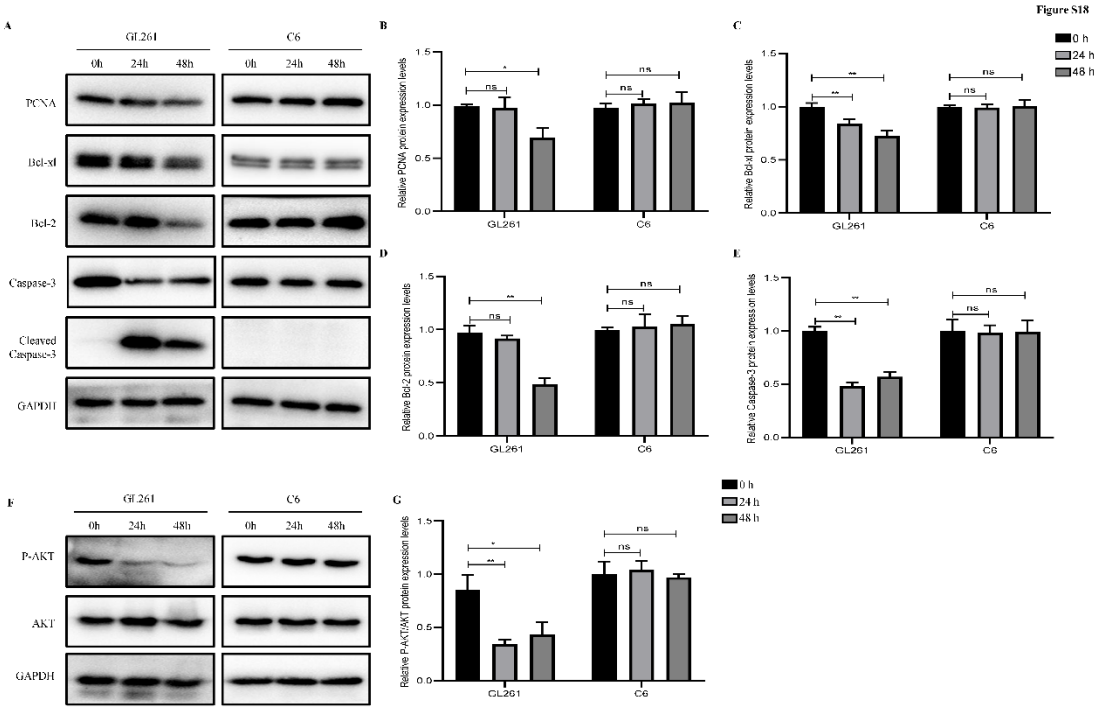

Figure S18 Effects of 2-BP on related proteins levels in gliomas. A-E. Effects of 2-BP on proliferation and apoptosis-related proteins levels in glioma cell lines. *, $P < 0.05$; **, $P < 0.01$; ns, $P > 0.05$ compared with control. F-G. Effects of 2-BP on PI3K/AKT signaling pathway-related proteins levels in glioma cell lines. *, $P < 0.05$; **, $P < 0.01$; ns, $P > 0.05$ compared with control.

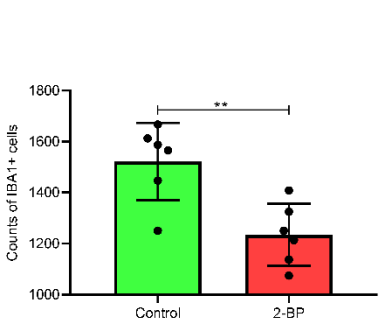

Figure S19 Effects of 2-BP on microglia infiltration. **, $P < 0.01$; compared with control.

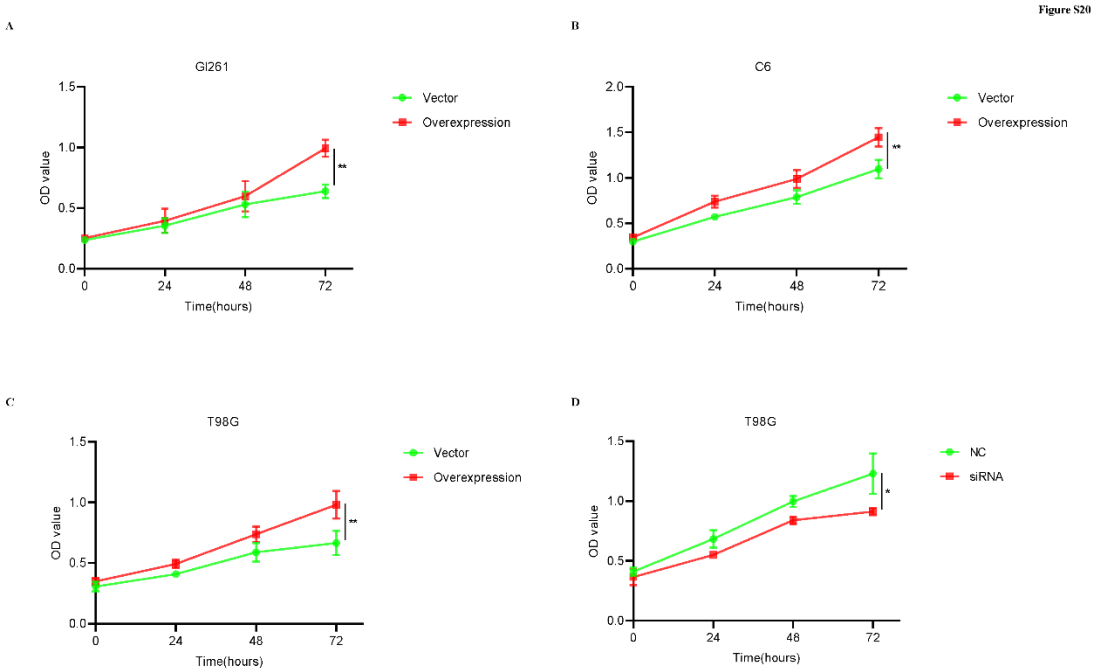

Figure S20 Effects of overexpression or knockdown of ZDHHC12 on cell viability. A-C GL261, C6 and T98G cell were transfected with ZDHHC12 overexpressed plasmids and then cell viability was measured. **, $P < 0.01$ compared with vector. D. T98G cells was knockout of ZDHHC12 and then cell viability was measured. *, $P < 0.05$ compared with NC.