Supplementary

Table S1 siRNA sequences used in this study

siRNA name	Sequence
GLYAT-siRNA #1	Sense: CCAGCAUCCUUAAAGGUUUTT
	Antisense: AAACCUUUAAGGAUGCUGGTT
GLYAT-siRNA #2	Sense: GGAUCACCAGAACUCAUCATT
	Antisense: UGAUGAGUUCUGGUGAUCCTT
GLYAT-siRNA #3	Sense: CCAAGGAACUGACUCCUUUTT
	Antisense: AAAGGAGUCAGUUCCUUGGTT
siRNA control	Sense: UUCUCCGAACGUGUCACGUTT
	Antisense: ACGUGACACGUUCGGAGAATT

siRNA, short interfering RNA; GLYAT, glycine-N-acyltransferase.

Table S2 Prognostic value of candidate genes for OS in liver cancer patients based on GEPIA

Gene	Function	P value
ACAT1	Protective factor	<0.001
ADI1	Protective factor	0.0045
ALDH8A1	Protective factor	0.0075
BHMT	Protective factor	0.0095
CARS2	Risk factor	<0.001
DARS2	Risk factor	0.003
DPYS	Protective factor	0.0044
FARSB	Risk factor	<0.001
FTCD	Protective factor	<0.001
GCDH	Protective factor	0.0083
GLYAT	Protective factor	0.01
GMPS	Risk factor	<0.001
GNMT	Protective factor	0.0088
GPT	Protective factor	0.0024
HAAO	Protective factor	0.029
HARS2	Risk factor	0.0072
MAT1A	Protective factor	0.0067
MSRA	Protective factor	0.0081
MTHFD1	Protective factor	0.0088
NARS1	Risk factor	0.0026
QDPR	Protective factor	0.022
UROC1	Protective factor	0.0049

OS, overall survival.

https://dx.doi.org/10.21037/tcr-24-1412

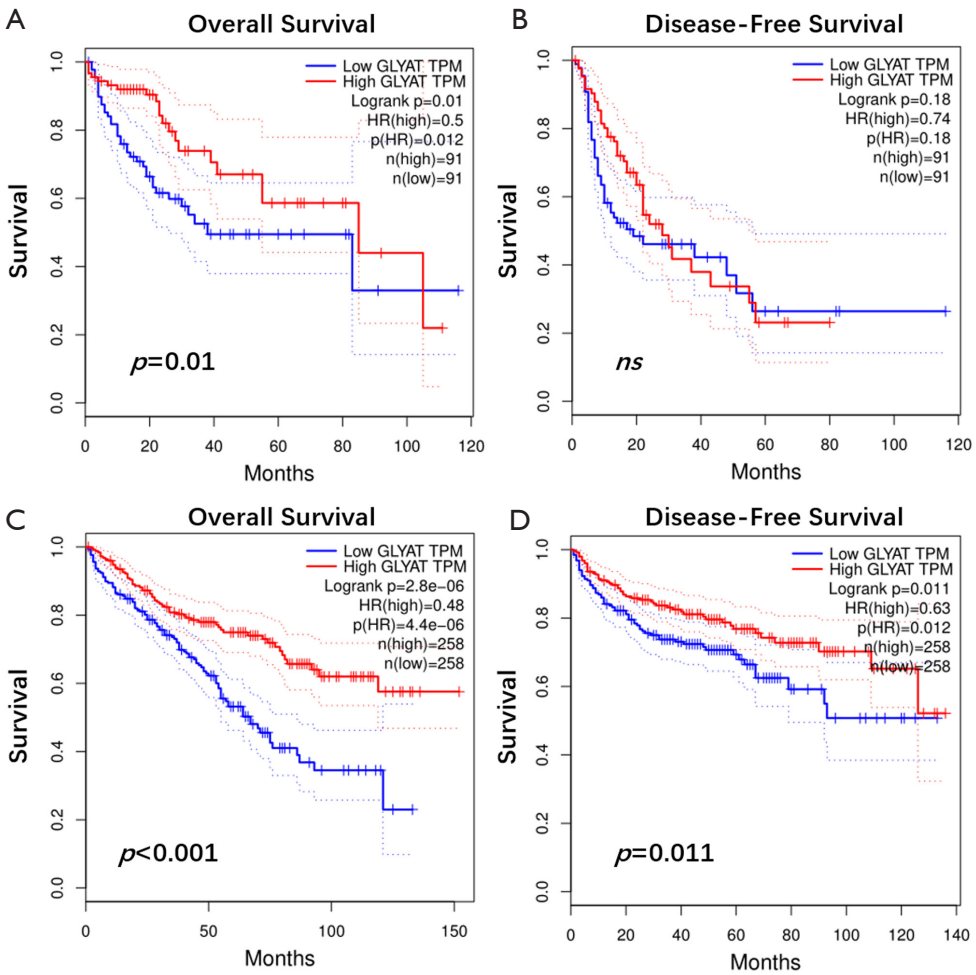

Figure S1 Kaplan-Meier analysis of GLYAT in liver cancer and ccRCC based on the GEPIA database. (A,B) Liver cancer patients with low GLYAT mRNA expression had short OS but not TTR. (C,D) ccRCC patients with low GLYAT mRNA expression had short OS and TTR. GLYAT, glycine-N-acyltransferase; TPM, transcripts per million; HR, hazard ratio; ccRCC, clear cell renal cell carcinoma; mRNA, messenger RNA; OS, overall survival; TTR, time to recurrence.

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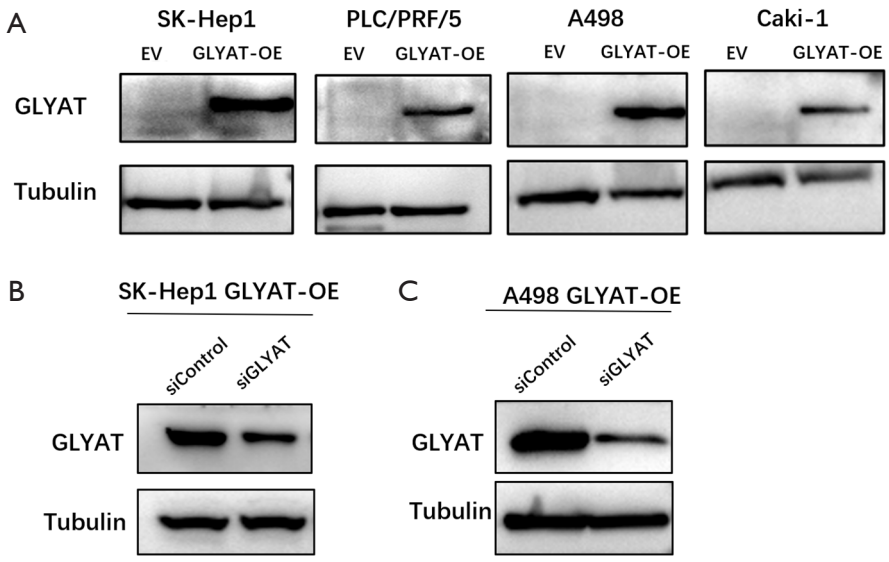

Figure S2 Western blot for detecting GLYAT protein expression. (A) GLYAT was overexpressed in the SK-Hep1, PLC/PRF/5, A498, and Caki-1 cells. (B,C) GLYAT was disturbed in the SK-Hep1 GLYAT-OE cells, and the A498 GLYAT-OE cells by siRNA. EV, empty vector; GLYAT-OE, GLYAT overexpression; GLYAT, glycine-N-acyltransferase; si, short interfering RNA; siRNA, short interfering RNA.

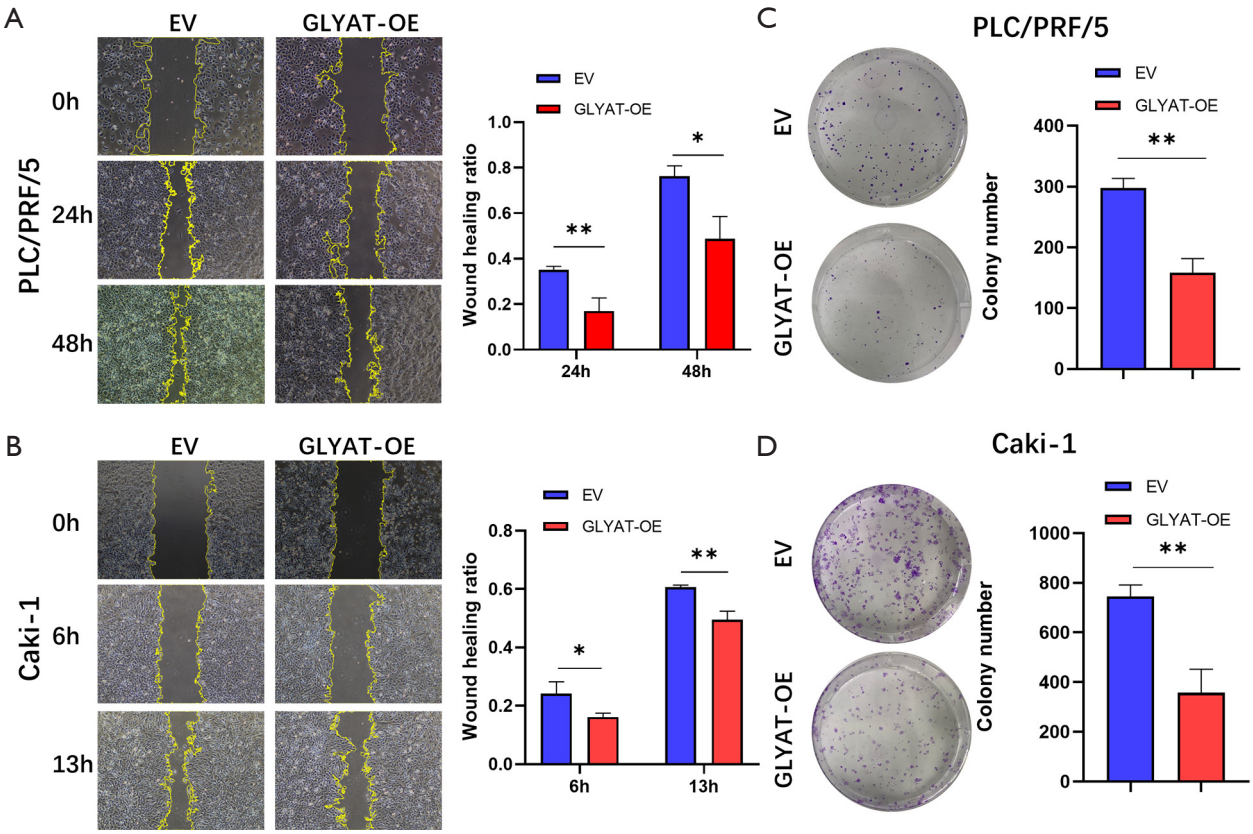

Figure S3 The overexpression of GLYAT suppressed the migration and proliferation abilities of the cells. (A,B) Wound healing assay showed that overexpressed GLYAT inhibited the migration ability of the PLC/PRF/5 and Caki-1 cells (40×). (C,D) The overexpression of GLYAT inhibited the proliferation ability of the PLC/PRF/5 and Caki-1 cells. Cells were stained by crystal violet. *, P<0.05; **, P<0.01. Error bars denote mean ± SD. EV, empty vector; GLYAT-OE, GLYAT overexpression; GLYAT, glycine-N-acyltransferase; SD, standard deviation.

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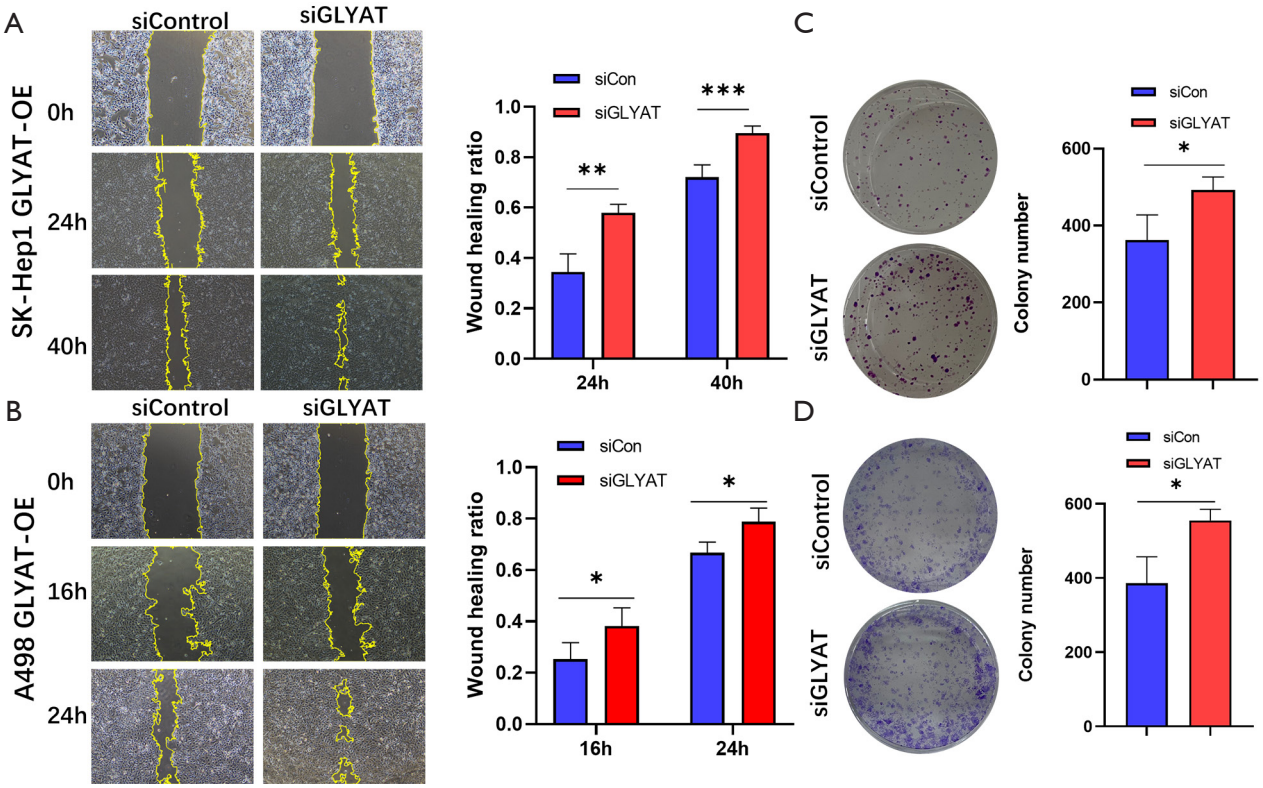

Figure S4 Disturbing GLYAT rescued the migration and proliferation abilities of the cells. (A,B) Wound healing assay showed that disturbing GLYAT rescued the migration ability of the SK-Hep1 GLYAT-OE cells and A498 GLYAT-OE cells (40×). (C,D) Disturbing GLYAT rescued the proliferation ability of the SK-Hep1 GLYAT-OE cells and A498 GLYAT-OE cells. Cells were stained by crystal violet. *, P<0.05; **, P<0.01; ***, P<0.001. Error bars denote mean ± SD. si, short interfering RNA; GLYAT, glycine-N-acyltransferase; GLYAT-OE, GLYAT overexpression; Con, control group; SD, standard deviation.

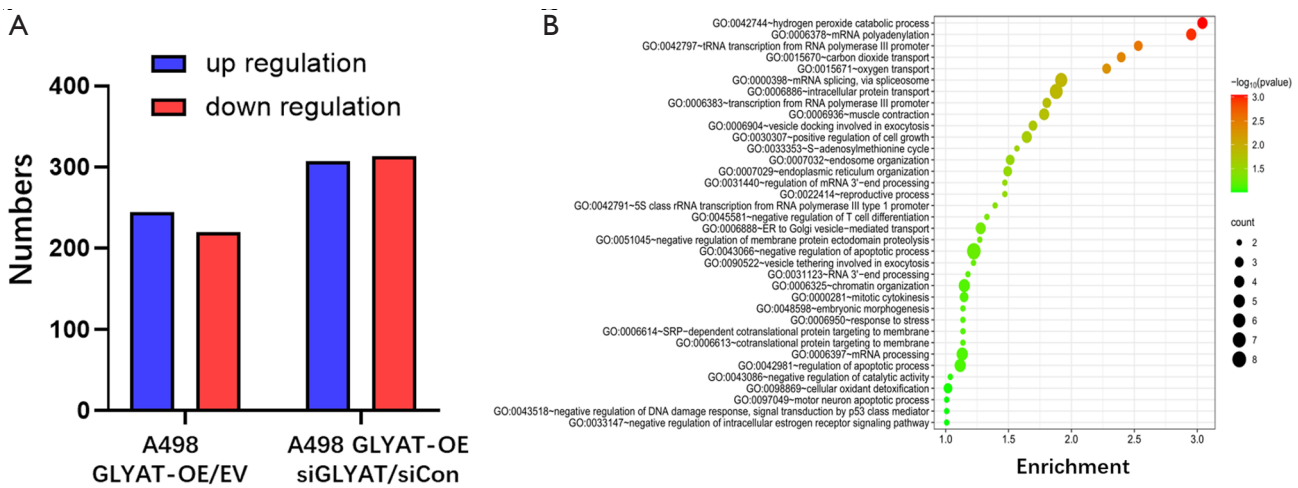

Figure S5 Screening for downstream proteins of GLYAT. (A) Differential expression protein profiles were analyzed by proteomics in the indicated cell lines. (B) Biological processes of the differentially expressed proteins by GO analysis. GLYAT-OE, GLYAT overexpression; GLYAT, glycine-N-acyltransferase; EV, empty vector; si, short interfering RNA; Con, control group; GO, Gene Ontology.

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