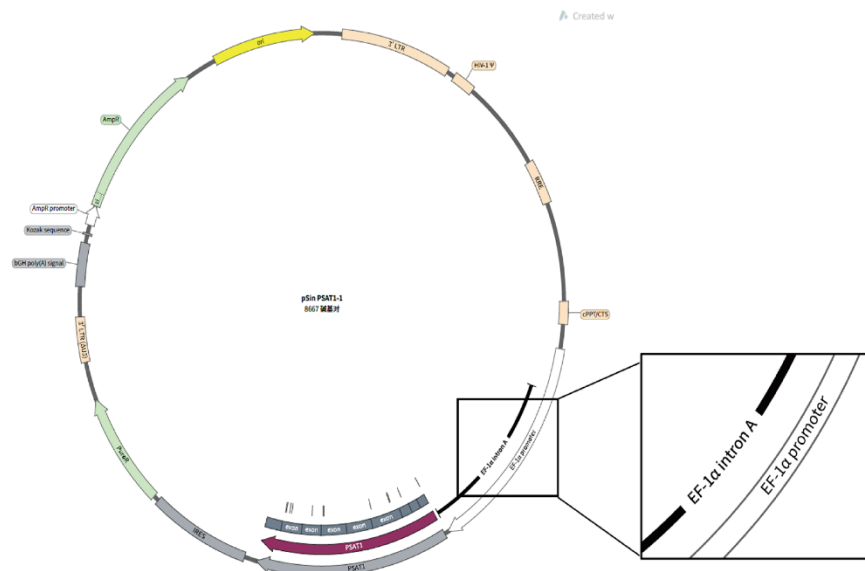
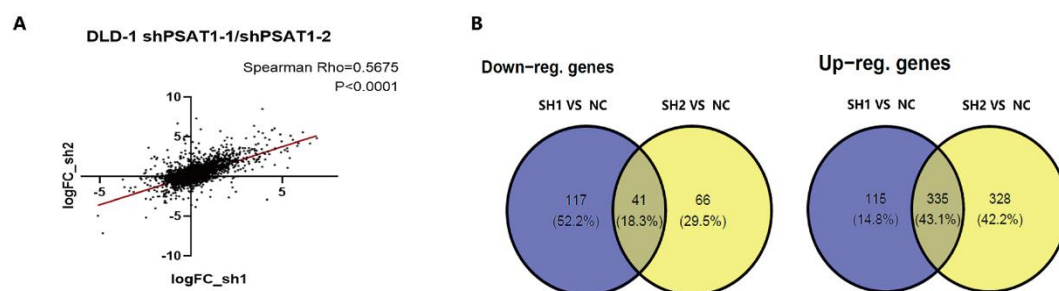


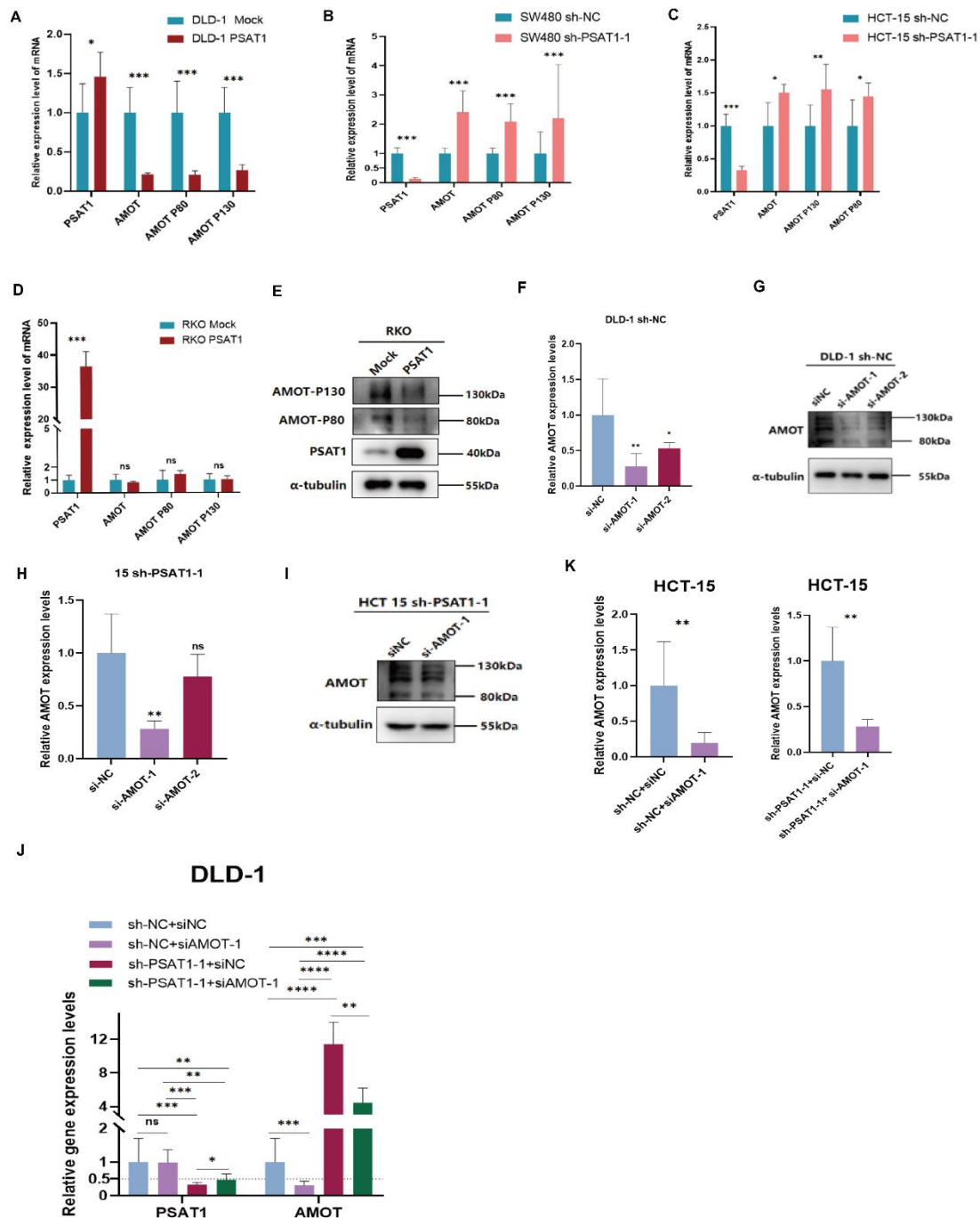


Supplementary Fig. S1 Overexpression plasmid map of PSAT1, the promoter is EF-1a



Supplementary Fig. S2 Other RNA-seq results after we knocked down PSAT1 in CRC

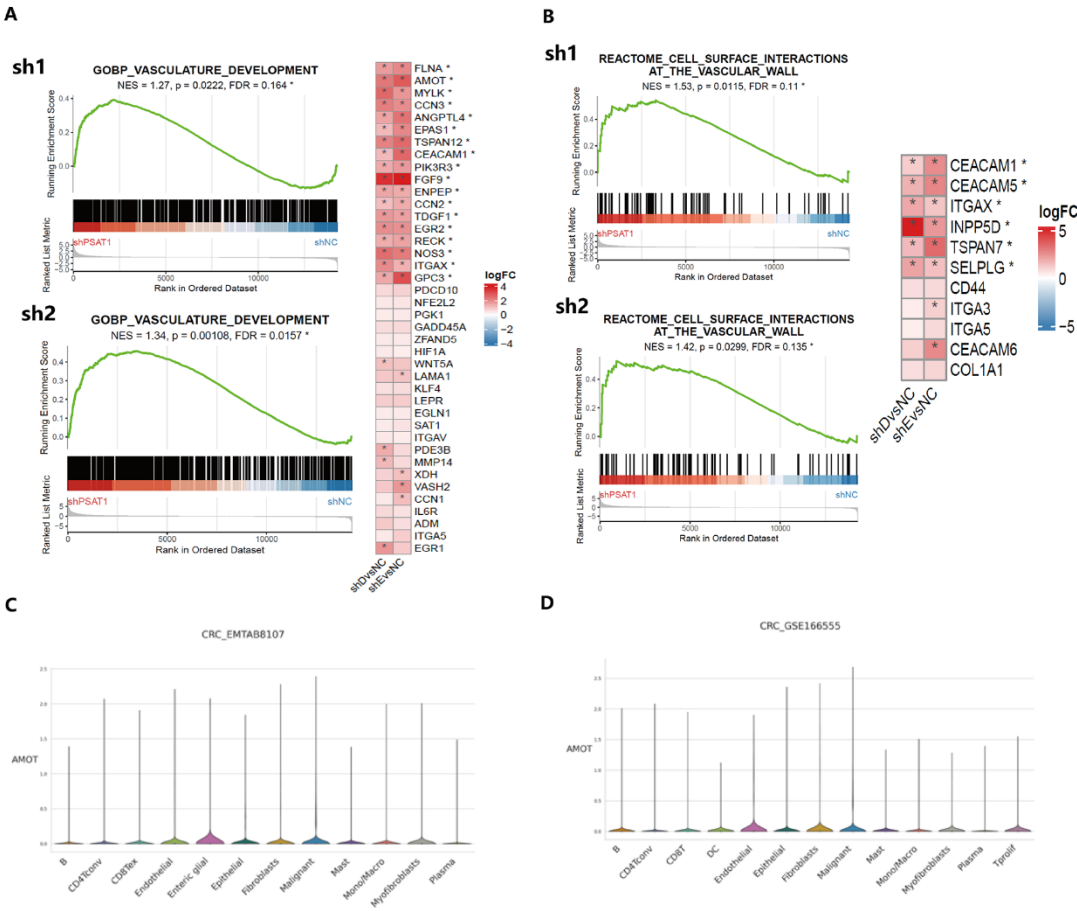
(A) Scatter plot showing the consistency of the fold change trends of the two shPSAT1 groups in RNA-seq results of the DLD-1 cell line. (B) Venn diagrams showing the numbers of overlapping genes and the numbers of up-regulated or down-regulated DEGs in the comparisons between two stable knockdown PSAT1 groups and the control group. Filtering criteria include $|\text{limma-voom } \log\text{FC}| > 1$ and adjusted $p < 0.05$.



Supplementary Fig. S3 Correlation between the expression of PSAT1, AMOT, AMOT p80, and AMOT p130, and efficiency verification results of AMOT expression level knockdown

(A-E) RT-qPCR and WB results showed the correlation between the expression of PSAT1, AMOT, AMOT p80, and AMOT p130. The cells including the stable knockdown PSAT1 groups from SW480, and HCT-15 and the stable overexpression PSAT1 groups from DLD-1 and RKO. (F-I) Efficiency verification results of AMOT expression level knockdown. In the verification, two kinds of si-AMOT and si-NC were used to transfect the DLD-1 sh-NC group (F,G) and the HCT-15 sh-

PSAT1-1 group (**H,I**), after 48 hours, samples were collected to perform RT-qPCR (**F,H**); and after 72 hours, samples were collected to perform WB (**G,I**). (**J, K**) Efficiency verification results of RT-qPCR after AMOT was transiently knocked down using the finally selected si-AMOT-1. In the verification, samples were collected 48 hours after transfection. The tested cells were from the sh-NC group and the sh-PAST1-1 group of DLD-1 and the sh-NC group and the sh-PAST1-1 group of HCT-15. “ns” denotes no statistically significant difference; * indicates $p < 0.05$; ** signify $p < 0.01$; *** are used for $p < 0.001$; **** correspond to $p < 0.0001$.



Supplementary Fig. S4 PSAT1 may participated in regulating vascular-related pathways by mediating the vascular-related molecule AMOT

(**A,B**) GSEA enrichment plots and heat maps showing the top 40 or all common core enrichment genes in vascular-related pathways. Gene in the heat maps are arranged in a descending order according to their logFC values. In the heat maps, shD=sh1, shE=sh2. In the GSEA enrichment plots, * denotes $p < 0.05$ and FDR < 0.25. In the heat maps, an asterisk (*) in a square indicates the gene

is an up-regulated DEG for that shPSAT1 group, an asterisk on the right side of a gene name indicates the gene is a “common up-regulated DEG” that found up-regulated in both shPSAT1 groups. (C,D) Violin plots, it could be found that in colorectal cancer cells, AMOT was not only expressed in vascular endothelial cells, but also expressed in colorectal epithelial cells, the data source was from CRC-EMTAB8107 and CRC-GSE166555 public single-cell sequencing database.

Supplementary Table S1 List of primer sequences used for Reverse transcription-quantitative PCR (RT-qPCR)

Accession number	Target	Forward primer	Reverse primer
ENSG00000135069	PSAT1	AGCTAAGGCCCGCAGAA GAAG	GGTTGAGGTTCCAGG TGCTT
ENSG00000111640	GAPDH	GGAGTCCACTGGCGTCT T	TCTTGAGGCTGTTGT CATACTT
ENSG00000126016	AMOT	TGAGAAGGTGGCAAGA CTGC	ATGCATCCTCCGAAT CTCGC
NM_001113490.2, ENST00000371959.3	AMOT p130	CCTGAGTATGGAGCAG CCAG	GAAGTAGGGCTGTGA GGCTG
NM_133265.5, ENST00000304758	AMOT p80	GCTAAGAAGGACAAAT AAGATAGCAGAGTG	AGTTCCTGGCTGACA ATGGC

Supplementary Table S2 List of antibodies used for Western blot(WB), immunohistochemistry(IHC) and immunofluorescence(IF)

Type	Antibody name and catalog number	Company	Observed Molecular weight	Application	Working dilution
Primary antibody	PSAT(GTX110576)	GeneTex	40 kDa	WB	1:2000
				IHC	1:300
	GAPDH (60004-1-PBS)	Proteintech	37 kDa	WB	1:4000
	α -Tubulin (11224-1-AP)	Proteintech	55 kDa	WB	1:4000
	LATS1(A17992)	ABclonal	150 kDa	WB	1:1000
	p-LATS1 (Thr1079) (28998-1-AP)	Proteintech	140-150 kDa	WB	1:5000
	TAZ (A8202)	ABclonal	55 kDa	WB	1:500
				IF	1:50
	YAP1(66900-1-Ig)	Proteintech	70 kDa	WB	1:5000
				IF	1:200
	p-YAP1 (Phospho-Ser127) (11952-1)	Signalway Antibody	65 kDa	WB	1:500

		(SAB)			
	CTGF(25474-1-AP)	Proteintech	35 kDa	WB	1:2000
	ID1(67827-1-Ig)	Proteintech	18 kDa	WB	1:3000
	AMOT(24550-1-AP)	Proteintech	90,130- 140kDa	WB IHC	1:1000 1:400
	Ki-67(27309-1-AP)	Proteintech	/	IHC	1:2000
Secondary antibody	HRP Goat Anti-rabbit IgG (H+L) (BA1054)	BOSTER	/	WB	1:5000
	HRP Goat Anti-mouse IgG(H+L) (BA1050)	BOSTER	/	WB	1:5000
	Universal kit (mouse/rabbit polymer detection system) (PV- 6000)	ZSGB-BIO	/	IHC	Ready-to- use
	Dylight 649-labeled Anti-Mouse IgG (H+L) (E032610-01)	EarthOx	/	IF	1:100
	Dylight 549 Anti- Rabbit IgG (H+L) (E032320-01)	EarthOx	/	IF	1:100

Supplementary Table S3 List of the information of shPSAT1 (sh1 - sh4) and PSAT1 over-expressing plasmids used for cell transfection

Plasmid Name	Sequence
sh-PSAT1-1	CCATCAAATCTCAAACAATTT
sh-PSAT1-2	GCCGCACTCAGTGTTGTTAGA
sh-PSAT1-3	GGACTATAAAATATCGTTCACC
sh-PSAT1-4	GCCTCCTACGTGTATTATTGC
Ov-PSAT1	>NM_058179.4_CDS ATGGACGCCCCCAGGCAGGTGGTCAACTTTGGGCCTGGTCCCGCCAA GCTGCCGCACTCAGTGTTGTTAGAGATACAAAAGGAATTATTAGACT ACAAAGGAGTTGGCATTAGTGTCTTGAAATGAGTCACAGGTCATCA GATTTTGCCAAGATTATTAACAATACAGAGAATCTTGTGCGGGAATT GCTAGCTGTTCCAGACAACTATAAGGTGATTTTTCTGCAAGGAGGTG GGTGCGGCCAGTTCAGTGCTGTCCCCTTAAACCTCATTGGCTTGAAAG CAGGAAGGTGTGCGGACTATGTGGTGACAGGAGCTTGGTCAGCTAAG GCCGCAGAAGAAGCCAAGAAGTTTGGGACTATAAATATCGTTCACCC TAAACTTGGGAGTTATACAAAAATTCCAGATCCAAGCACCTGGAACC TCAACCCAGATGCCTCCTACGTGTATTATTGCGCAAATGAGACGGTGC ATGGTGTGGAGTTTGACTTTATACCCGATGTCAAGGGAGCAGTACTG GTTTGTGACATGTCCTCAAACCTTCTGTCCAAGCCAGTGGATGTTTCC AAGTTTGGTGTGATTTTTGCTGGTGCCGAGAAGAATGTTGGCTCTGCT GGGGTCACCGTGGTGATTGTCCGTGATGACCTGCTGGGGTTTGCCCTC CGAGAGTGCCCCTCGGTCTGGAATACAAGGTGCAGGCTGGAAACAG

CTCCTTGTACAACACGCCTCCATGTTTCAGCATCTACGTCATGGGCTT
GGTTCTGGAGTGGATTAAAAACAATGGAGGTGCCGCGGCCATGGAGA
AGCTTAGCTCCATCAAATCTCAAACAATTTATGAGATTATTGATAATT
CTCAAGGATTCTACGTTTGTCCAGTGGAGCCCCAAAATAGAAGCAAG
ATGAATATTCCATTCCGCATTGGCAATGCCAAAGGAGATGATGCTTTA
GAAAAAAGATTTCTTGATAAAGCTCTTGAACTCAATATGTTGTCCTTG
AAAGGGCATAGGTCTGTGGGAGGCATCCGGGCCTCTCTGTATAATGC
TGTCACAATTGAAGACGTTTCAGAAGCTGGCCGCCTTCATGAAAAAAT
TTTTGGAGATGCATCAGCTATGA

Supplementary Table S4 List of the information of siRNAs (si-AMOT-1 and si-AMOT-2) used for cell transfection

siRNA Name	Sense strand (5'-3')	Antisense strand (5'-3')
si-AMOT-1	GAGGCCCUAGAGAAAGCCAUGA GAA	UUCUCAUGGCUUUCUCUAGGGCCU C
si-AMOT-2	CAACAGUCAUCAGUCACUCUCCU AA	UUAGGAGAGUGACUGAUGACUGUU G
si-NC	UUCUCCGAACGUGUCACGUTT	ACGUGACACGUUCGGAGAATT