Figure S1

A Data Sources

B Pan-cancer analysis
Expression profiles and prognostic values
Genomica variation and drug sensitivity
OS survival
PFI survival

C Two subtypes of ccRCC for copper induced cell death
Risk model construction
Clinical outcome
Pathway analysis
Genomic variation
Immune infiltration
Drug sensitivity

D Construction of risk model and the core role of DLAT
Four genes risk model
TCGA-ccRCC validation
Expression verification
Functionnal experiments

Figure S2

A

BLCA BRCA CESC CHOL COAD
ESCA GBM HNSC KICH KIRC
KIRP LIHC LUAD LUSC PAAD
PRAD READ STAD THCA UCEC

B

	UCEC (n=531)	SKCM (n=468)	HNSC (n=509)	PAAD (n=178)	LUSC (n=485)	STAD (n=439)	CHOL (n=36)	ESCA (n=185)	BLCA (n=411)	COAD (n=407)	LUAD (n=567)	READ (n=149)	DLBC (n=37)	LIHC (n=365)	CESC (n=291)	ACC (n=92)	GBM (n=1026)	BRCA (n=403)	KIRC (n=370)	KIRP (n=282)	LAML (n=140)	LGG (n=526)	MESO (n=82)	OV (n=412)	PCPG (n=184)	PRAD (n=498)	SARC (n=239)	TGCT (n=151)	THCA (n=500)	THYM (n=123)	UCS (n=57)
CDKN2A	8	61	104	36	73	18	2	15	27	1	24			9	6	1		4		3		2		1	1	1	1		1		1
MTF1	34	16	6	0	6	9		0	8	5	7	2		2	4		6	4	3	2		1			4	0		1	1	1	1
GLS	22	11	1	1	7	6		0	4	5	8	0	1	1	2		4	3	1	5	2	1	0	2		1			1		
DLD	13	7	2	0	8	11		1	8	9	9	1		2			3		2	2	3	2			1	0		2		1	
DLAT	14	10	4	1	6	8	0		6	5	7	3		0	3		2	2	1	1		1	1	1	1	1					
PDHA1	26	8	3	1	4	0			5	5	6	1	0	1			3	3	1		3	1			0						
LIAS	14	7	1	1	3	5	1		1	5	7	3	2		1	2	1	4	0	1	1			1							0
LIPT1	13	8	1		3	8		1	2	9	2	3			0		2	1	0				0	1					1	0	1
PDHB	13	6	2			4			2	4		0		1	2		2	1	1			0		0							
FDX1	3	0	2	1	0	2			2	1	3	0			0		0														1

Mutation Frequency (%)

C

Overall survival difference between hypermethylation and hypomethylation.
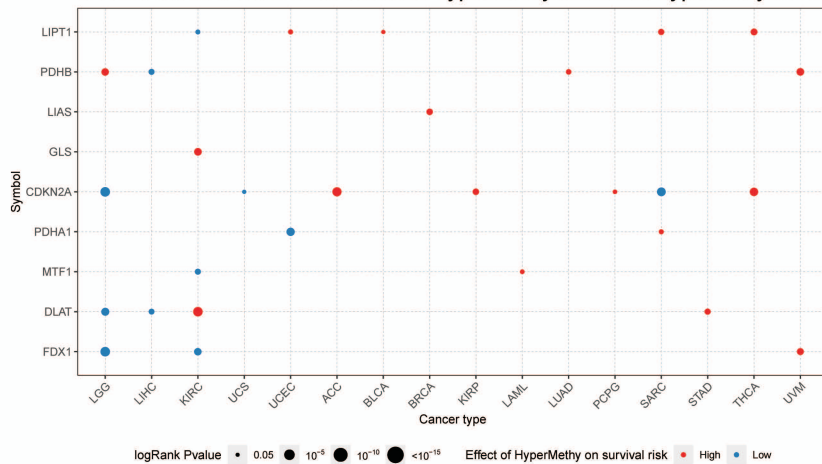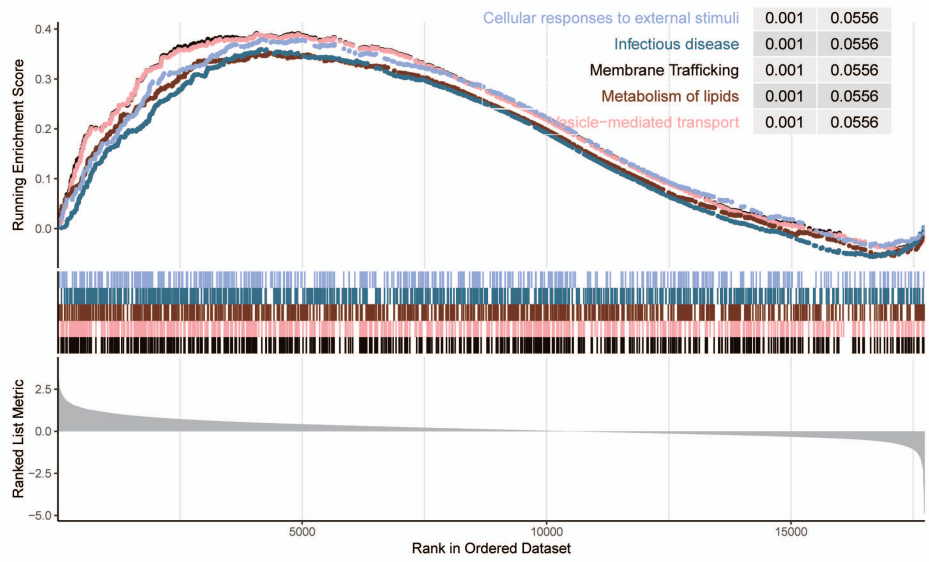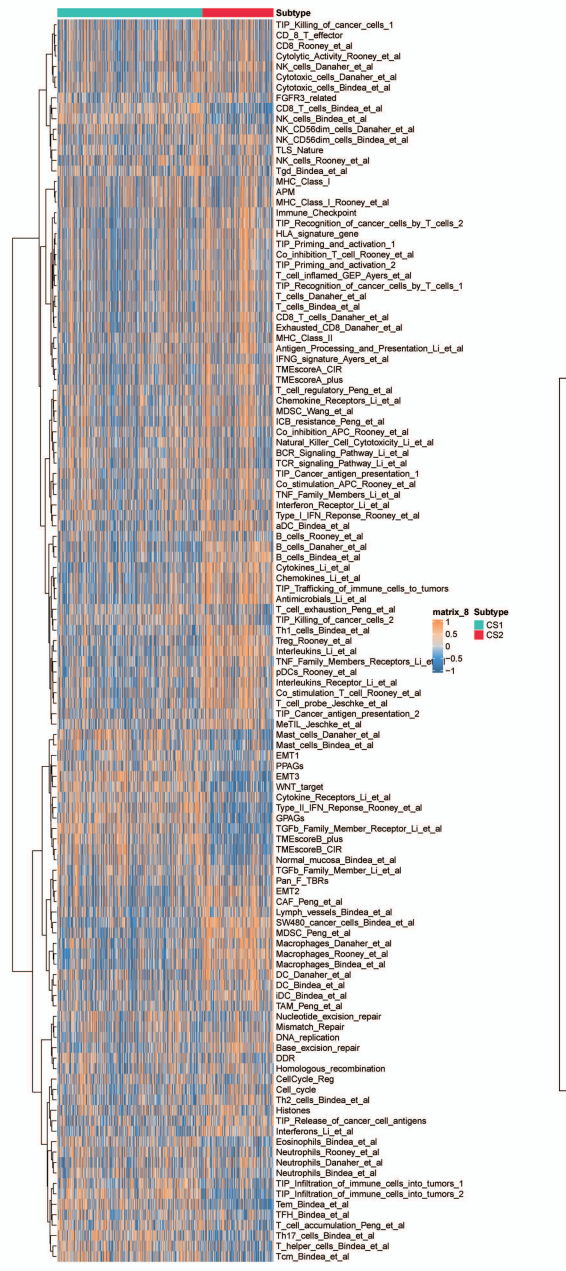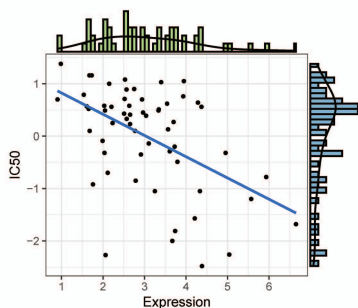
Symbol

Cancer type

logRank Pvalue   0.05 10^{-5} 10^{-10} $<10^{-15}$ Effect of HyperMethy on survival risk   ● High   ● Low

Figure S3

Figure S4

A

	0.001	0.0556
Cellular responses to external stimuli	0.001	0.0556
Infectious disease	0.001	0.0556
Membrane Trafficking	0.001	0.0556
Metabolism of lipids	0.001	0.0556
Vesicle−mediated transport	0.001	0.0556
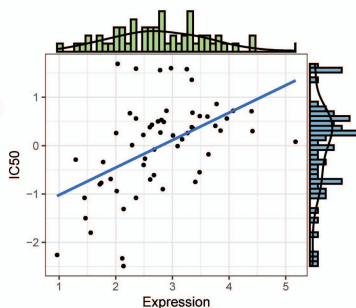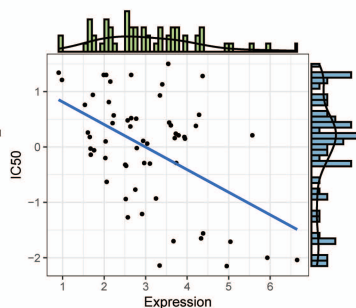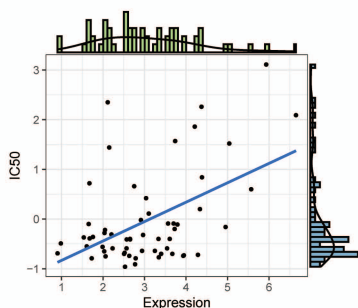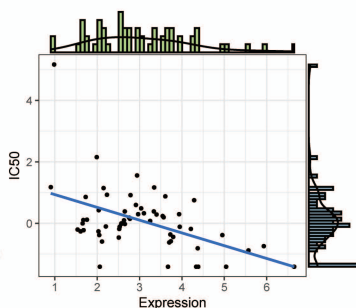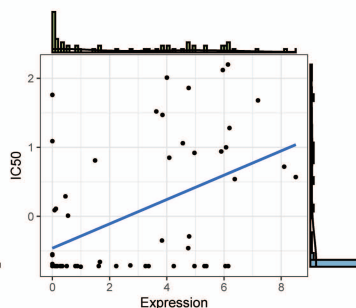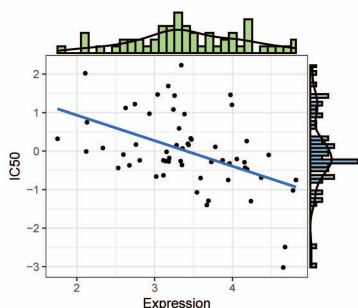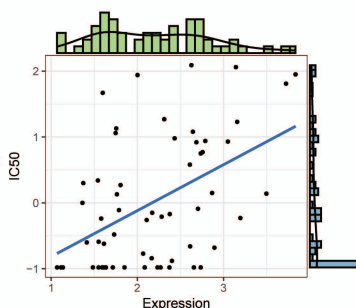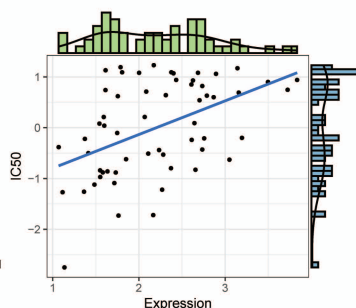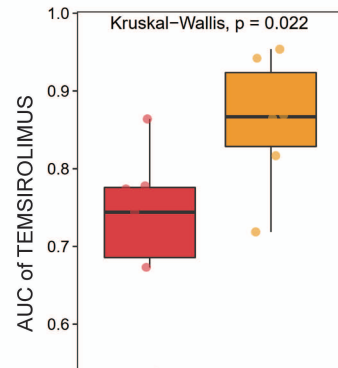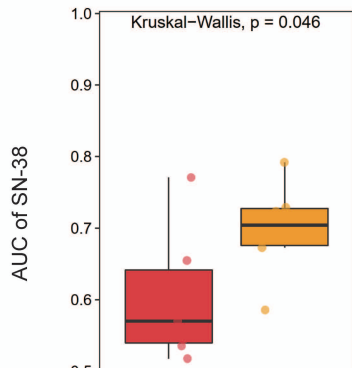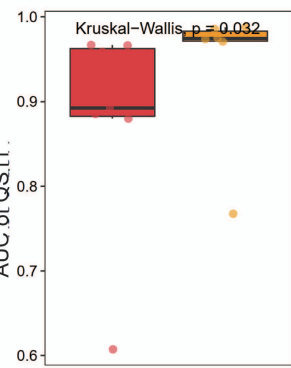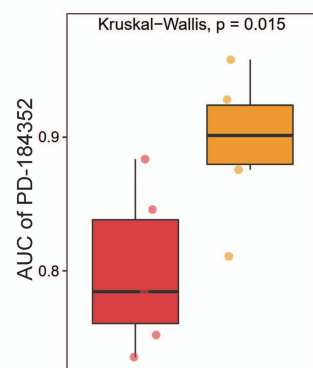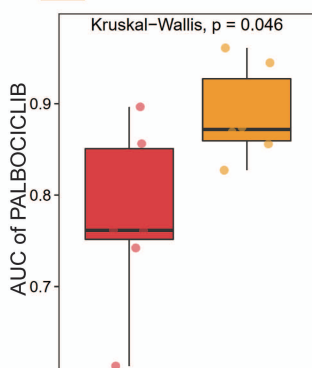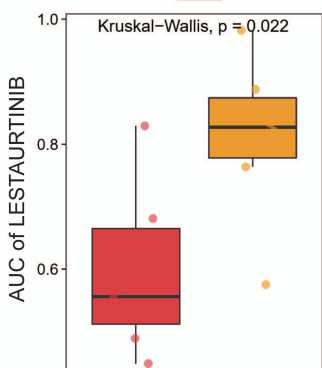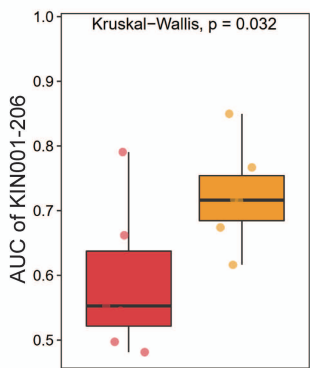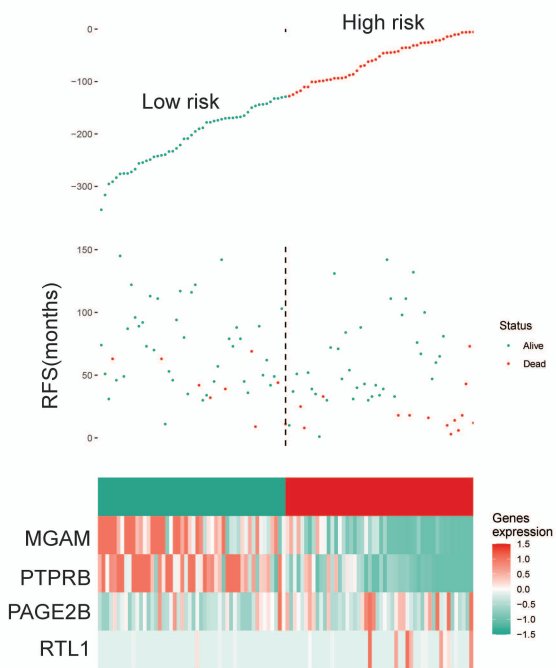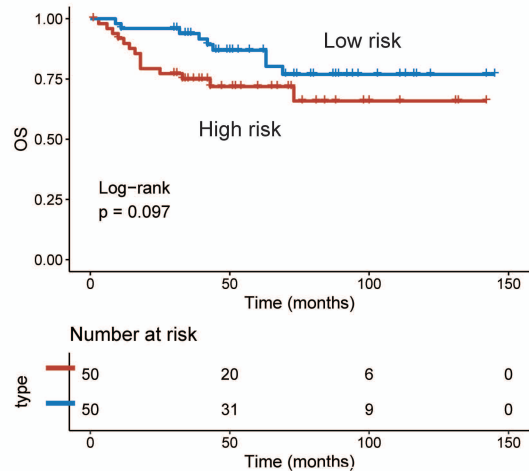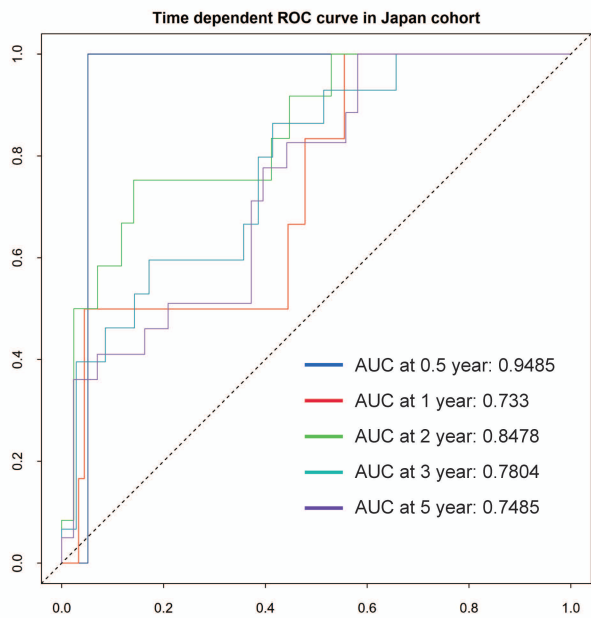
Figure S5
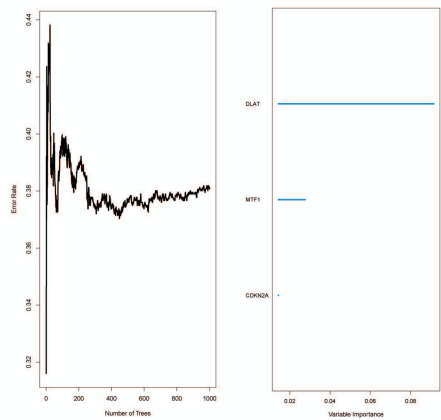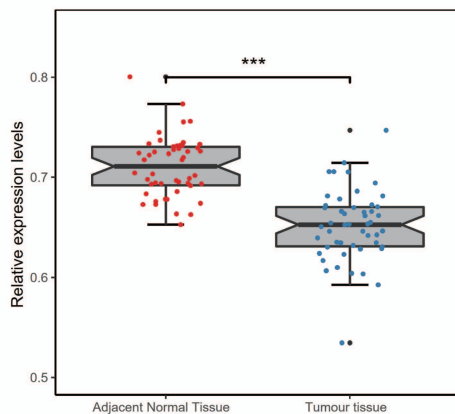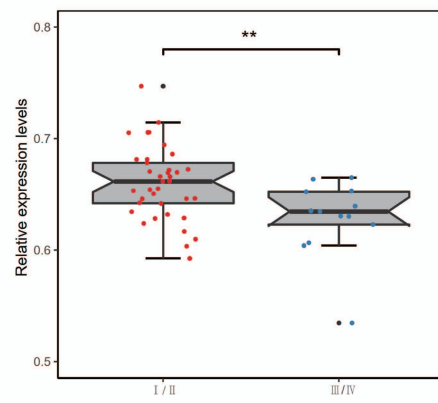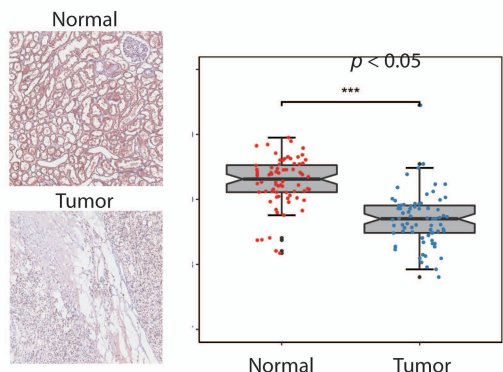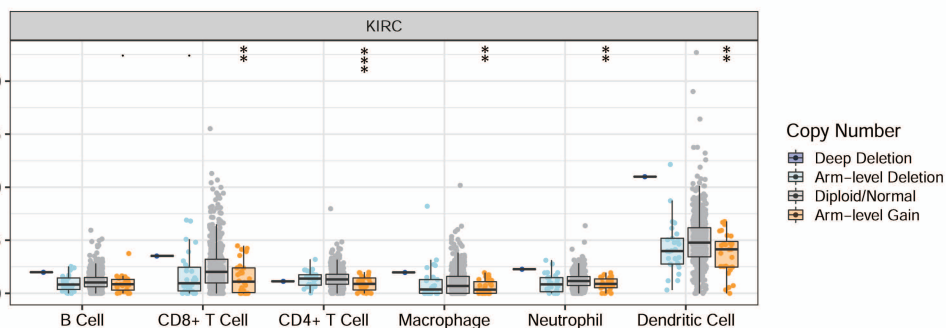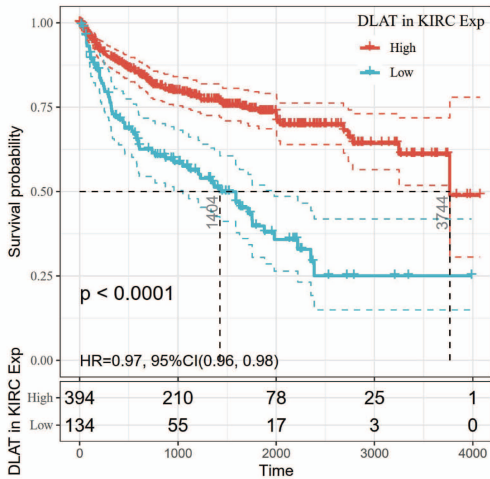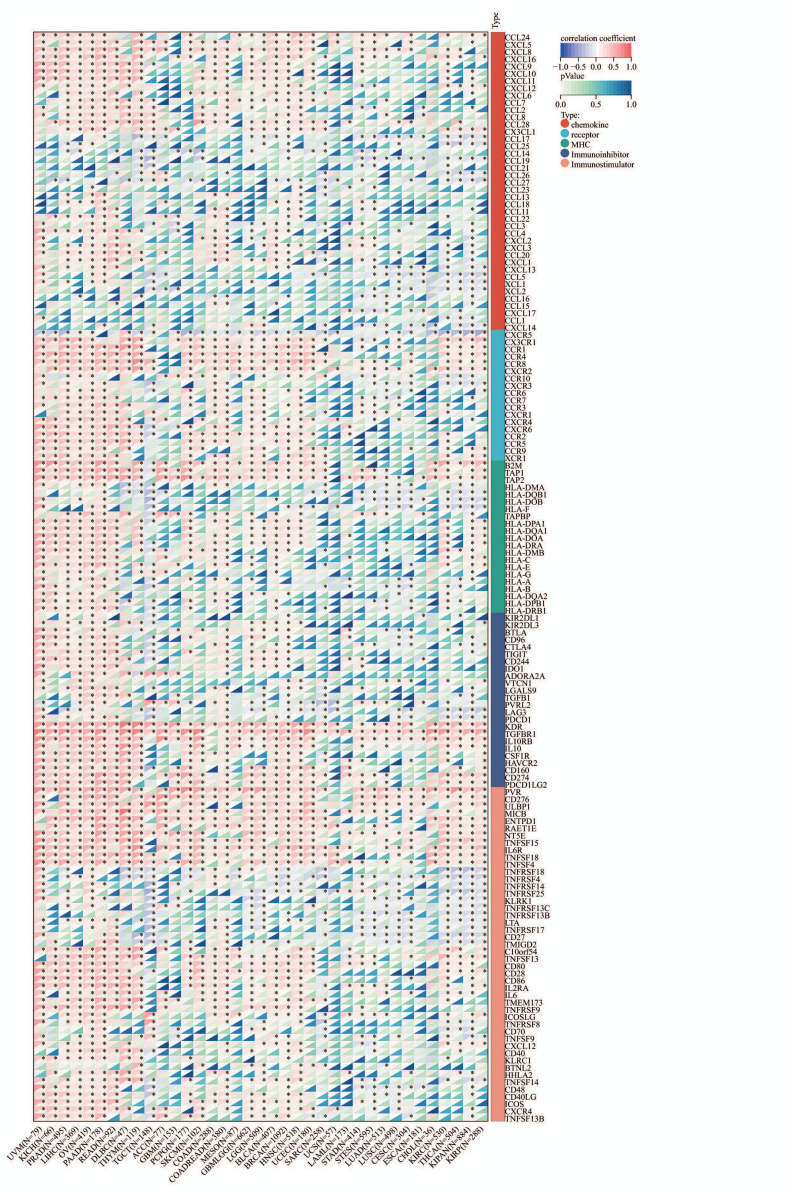
Figure S6

Figure S7

Figure S8

A

B

C
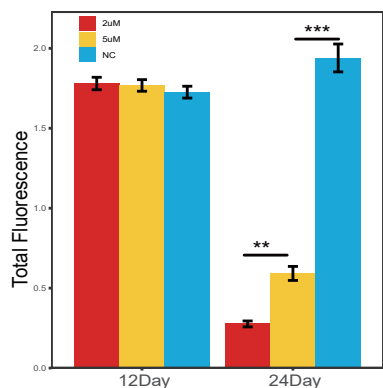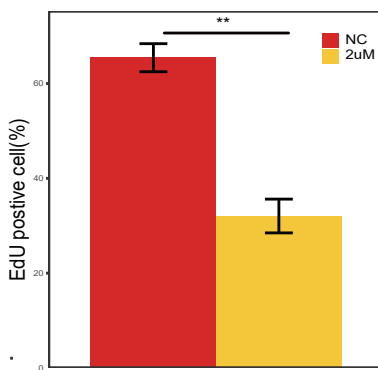
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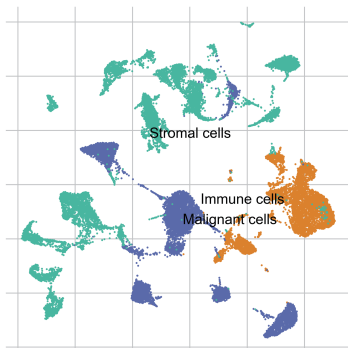
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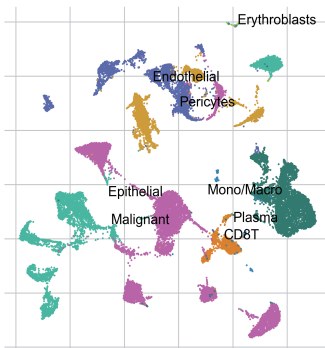
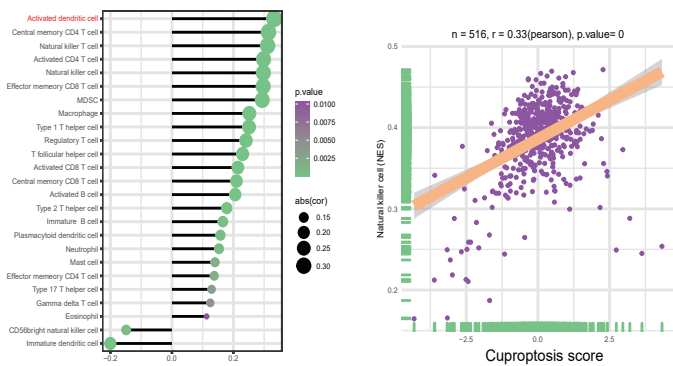Cuprotosis Score

D
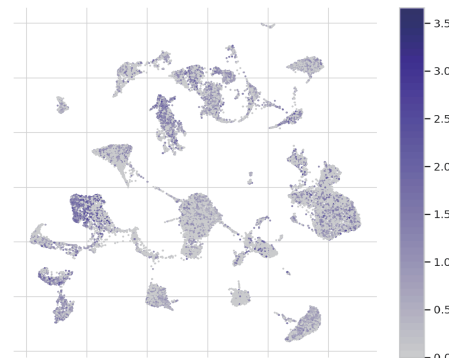
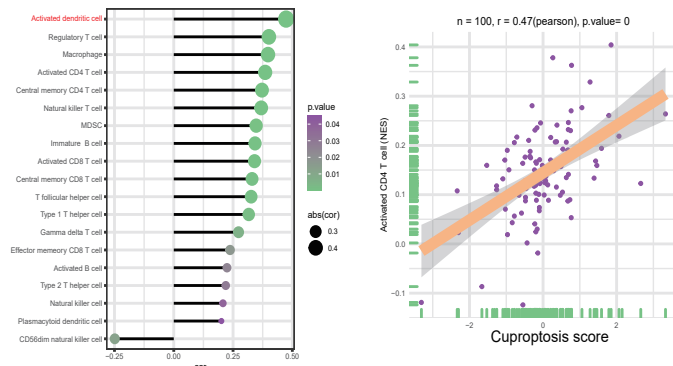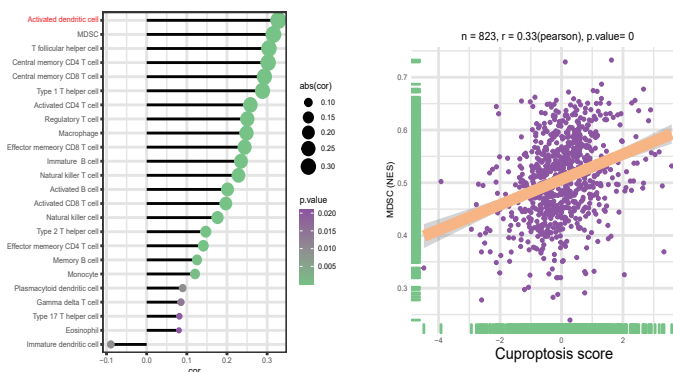

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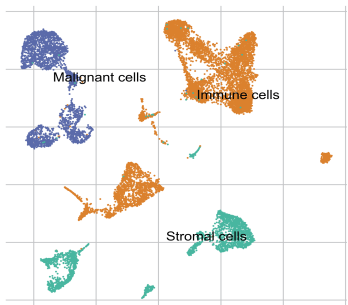
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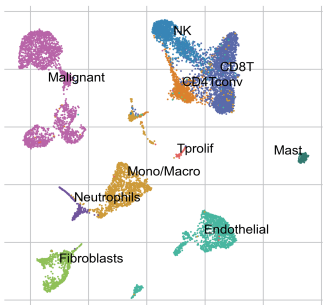
Cuprotosis Score

Figure S9

A

TCGA-KIRC cohort

JAPAN-KIRC cohort

Cancer cell-KIRC cohort

B