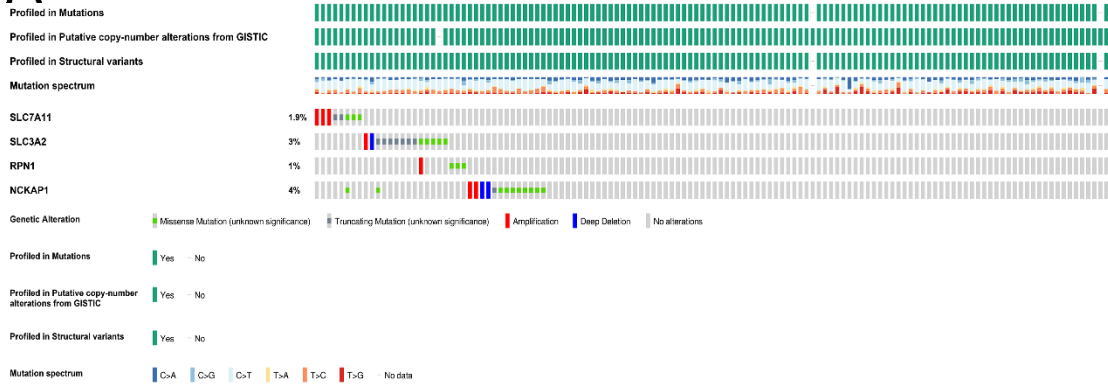
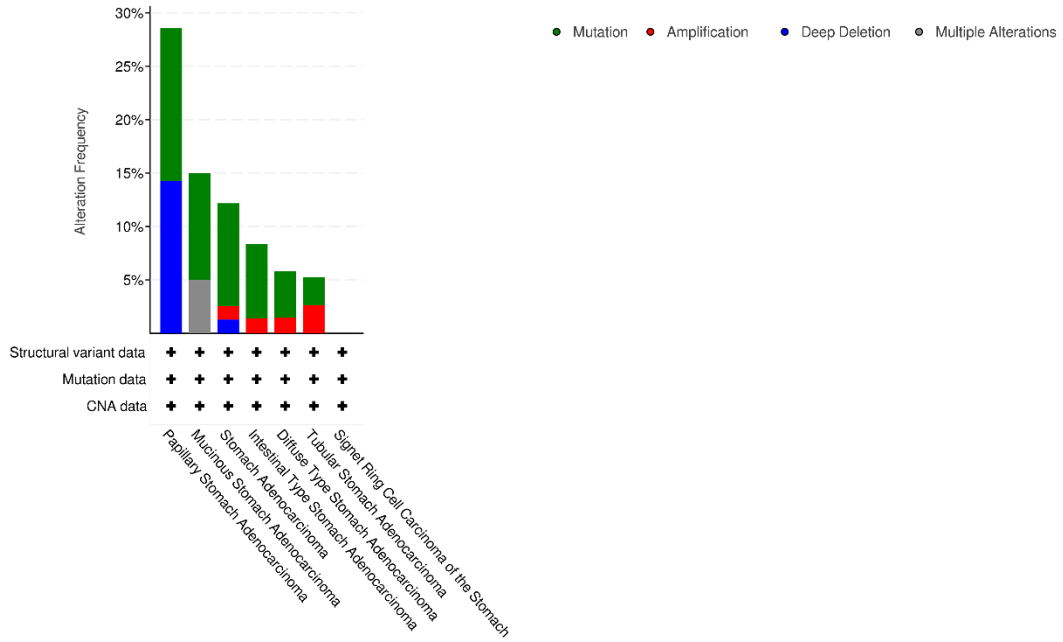


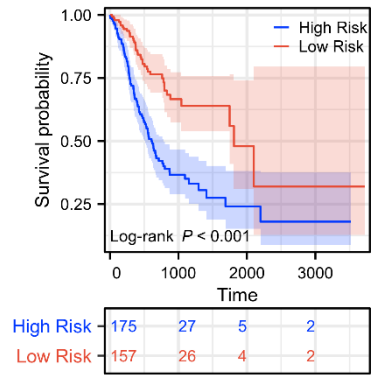
**A**



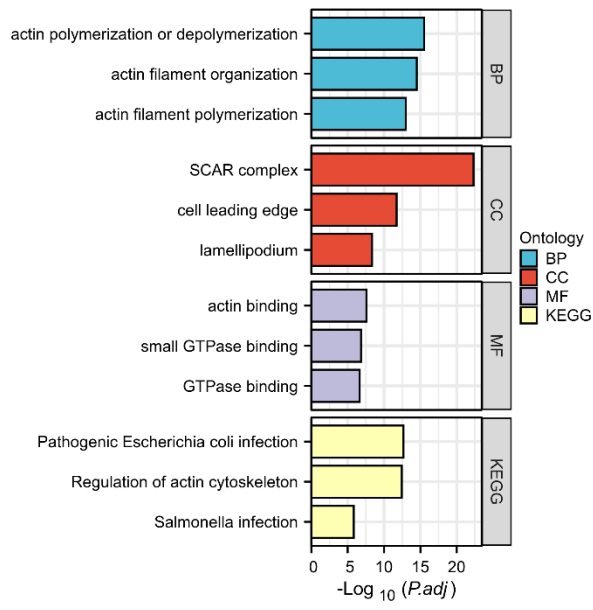
**B**



**Sup Fig. 1**



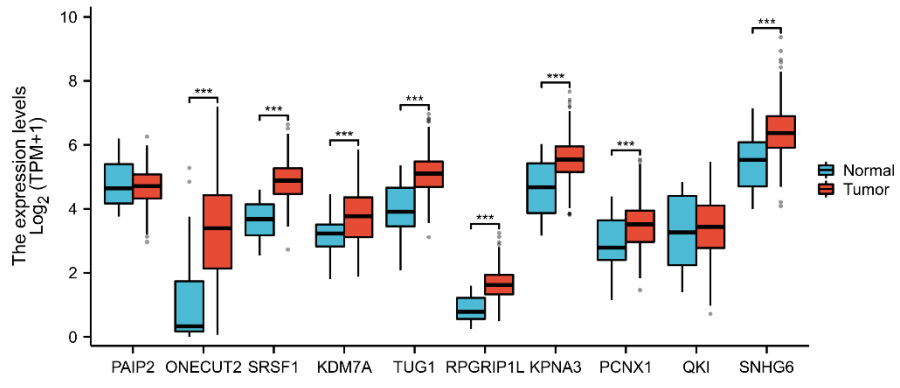
**Sup Fig. 2**



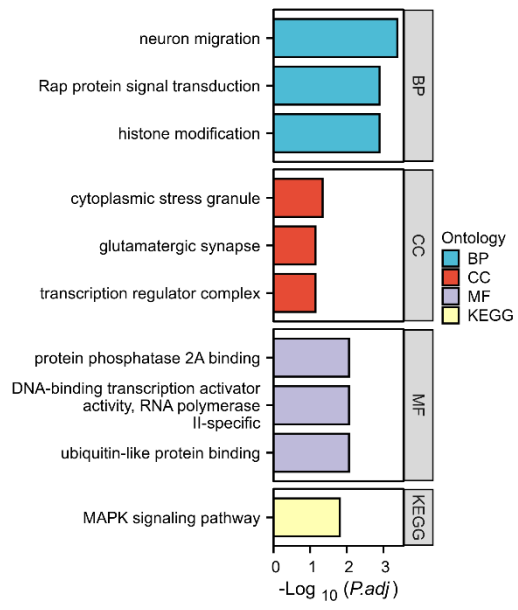
**Sup Fig. 3**







**Sup Fig. 6**



**Sup Fig. 7**

**Supplementary Table 1 Correlation between NCKAP1 expression levels in gastric cancer tissues and clinicopathological parameters in TCGA cohort**

Characteristics	Low expression of NCKAP1	High expression of NCKAP1	P value
n (%)	187	188	
Age, median (IQR)	67 (57, 73)	68 (59, 74)	0.336
Gender,			0.493
Male	117 (31.2%)	124 (33.1%)	
Female	70 (18.7%)	64 (17.1%)	
Pathologic T stage			0.450
T1	10 (2.7%)	9 (2.5%)	
T2	41 (11.2%)	39 (10.6%)	
T3	91 (24.8%)	77 (21%)	
T4	44 (12%)	56 (15.3%)	
Pathologic N stage			0.921
N0	59 (16.5%)	52 (14.6%)	
N1	49 (13.7%)	48 (13.4%)	
N2	36 (10.1%)	39 (10.9%)	
N3	38 (10.6%)	36 (10.1%)	
Pathologic M stage			0.293
M0	162 (45.6%)	168 (47.3%)	
M1	15 (4.2%)	10 (2.8%)	
Pathologic stage			0.391
Stage I	24 (6.8%)	29 (8.2%)	
Stage II	64 (18.2%)	47 (13.4%)	
Stage III	73 (20.7%)	77 (21.9%)	
Stage IV	20 (5.7%)	18 (5.1%)	



Characteristics	Low expression of NCKAP1	High expression of NCKAP1	P value
Primary therapy outcome			0.176
PD	27 (8.5%)	38 (12%)	
SD&PR	12 (3.8%)	9 (2.8%)	
CR	125 (39.4%)	106 (33.4%)	

**Supplementary Table 2 Correlation between SLC7A11 expression levels in gastric cancer tissues and clinicopathological parameters in TCGA cohort**

Characteristics	Low expression of SLC7A11	High expression of SLC7A11	P value
n (%)	187	188	
Age, median (IQR)	64 (57.25, 72)	69 (59, 75)	0.004
Gender			0.299
Male	125 (33.3%)	116 (30.9%)	
Female	62 (16.5%)	72 (19.2%)	
Pathologic T stage			0.092
T1	8 (2.2%)	11 (3%)	
T2	44 (12%)	36 (9.8%)	
T3	91 (24.8%)	77 (21%)	
T4	40 (10.9%)	60 (16.3%)	
Pathologic N stage			0.763
N0	56 (15.7%)	55 (15.4%)	
N1	49 (13.7%)	48 (13.4%)	
N2	37 (10.4%)	38 (10.6%)	
N3	32 (9%)	42 (11.8%)	
Pathologic M stage			0.159
M0	167 (47%)	163 (45.9%)	
M1	9 (2.5%)	16 (4.5%)	
Pathologic stage			0.037
Stage I	24 (6.8%)	29 (8.2%)	
Stage II	66 (18.8%)	45 (12.8%)	
Stage III	72 (20.5%)	78 (22.2%)	
Stage IV	13 (3.7%)	25 (7.1%)	

Characteristics	Low expression of SLC7A11	High expression of SLC7A11	P value
Primary therapy outcome			0.589
PD	32 (10.1%)	33 (10.4%)	
SD&PR	13 (4.1%)	8 (2.5%)	
CR	118 (37.2%)	113 (35.6%)	

**Supplementary Table 3 Go analysis and KEGG analysis**

<b>Ontology</b>	<b>ID</b>	<b>Description</b>	<b>GeneRatio</b>	<b>BgRatio</b>	<b>pvalue</b>	<b>p.adjust</b>
BP	GO:0008154	actin polymerization or depolymerization	13/27	199/18800	2.48e-19	3.02e-16
BP	GO:0007015	actin filament organization	15/27	450/18800	5.15e-18	3.13e-15
BP	GO:0030041	actin filament polymerization	11/27	169/18800	2.57e-16	1.04e-13
BP	GO:0032956	regulation of actin cytoskeleton organization	13/27	352/18800	4.42e-16	1.34e-13
BP	GO:0110053	regulation of actin filament organization	12/27	270/18800	8.66e-16	2.05e-13
CC	GO:0031209	SCAR complex	9/25	12/19594	3.83e-25	4.94e-23
CC	GO:0031252	cell leading edge	12/25	416/19594	2.9e-14	1.87e-12
CC	GO:0030027	lamellipodium	8/25	202/19594	1.03e-10	4.44e-09
CC	GO:0098858	actin-based cell projection	8/25	217/19594	1.83e-10	5.9e-09
CC	GO:0001726	ruffle	7/25	177/19594	1.83e-09	4.71e-08
MF	GO:0003779	actin binding	10/26	439/18410	2.03e-10	2.68e-08
MF	GO:0031267	small GTPase binding	8/26	267/18410	2.2e-09	1.45e-07
MF	GO:0051020	GTPase binding	8/26	298/18410	5.2e-09	2.29e-07
MF	GO:0015175	neutral amino acid transmembrane transporter activity	4/26	41/18410	3.05e-07	1.01e-05
MF	GO:0071933	Arp2/3 complex binding	3/26	15/18410	1.13e-06	2.97e-05

<b>Ontology</b>	<b>ID</b>	<b>Description</b>	<b>GeneRatio</b>	<b>BgRatio</b>	<b>pvalue</b>	<b>p.adjust</b>
KEGG	hsa05130	Pathogenic Escherichia coli infection	12/20	197/8164	2.97e-15	2.11e-13
KEGG	hsa04810	Regulation of actin cytoskeleton	12/20	218/8164	1.02e-14	3.6e-13
KEGG	hsa05132	Salmonella infection	8/20	249/8164	6.14e-08	1.45e-06
KEGG	hsa04520	Adherens junction	5/20	71/8164	6.04e-07	1.07e-05
KEGG	hsa04666	Fc gamma R-mediated phagocytosis	4/20	97/8164	7.84e-05	0.0010

**Supplementary Table 4 Correlation between RNA binding proteins and NCKAP1, SLC7A11**

<b>Co-RNA binding proteins</b>	<b>NCKAP1</b>	<b>SLC7A11</b>
U2AF2	RNPS1	ELAVL1
SCAF8	U2AF2	RBM47
YBX1	RBM10	U2AF1
SCAF4	SCAF8	SND1
BCLAF1	YBX1	SCAF4
PTBP1	SCAF4	EIF4A3
IGF2BP2	RBMX	U2AF2
GRWD1	FXR1	HNRNPA2B1
EIF4A3	BCLAF1	IGF2BP2
SRSF1	PTBP1	MTDH
U2AF1	FXR1	IGF2BP2
SND1	IGF2BP2	IGF2BP3
IGF2BP3	GRWD1	SRSF1
	TARDBP	BCLAF1
	ALYREF	SCAF8
	YTHDF3	YBX1
	CPSF7	GRWD1
	FUS	RBFOX2
	EIF4A3	PTBP1
	DDX54	PRPF8
	SRSF1	IGF2BP3
	ZC3H7B	GRWD1
	SRSF7	DAP3
	U2AF1	BCLAF1

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<b>Co-RNA binding proteins</b>	NCKAP1	SLC7A11
	IGF2BP1	AUH
	FUS	YBX1
	DDX54	
	RC3H1	
	NUDT21	
	MBNL2	
	TRA2B	
	SRRM4	
	SND1	
	G3BP1	
	HNRNPC	
	RC3H1	
	IGF2BP3	
	LIN28A	
	LIN28B	
	NUDT21	
	G3BP1	
	IGF2BP3	
	HNRNPC	
	RC3H1	
	NUDT21	

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