

SUPPLEMENTARY TABLES

Supplementary Table 1. Characteristics of the corresponding qPCR primers and shRNAs included in the context.

Genes	Forward primer	Reverse primer
MTDH	AAATAGCCAGCCTATCAAGACTC	TTCAGACTTGGTCTGTGAAGGAG
CXCL1	CTTCAGGAACAGCCACCAGT	TCCTGCATCCCCCATAGTTA
CXCL2	GCTTGTCTCAACCCCGCATC	TGGATTTGCCATTTTTCAGCATCTT
CXCL5	AGCTGCGTTGCGTTTGTTTAC	TGGCGAACACTTGCAGATTAC
Snail	CCCCAATCGGAAGCCTAACTAC	GAGCCTTTCCCACTGTCCTCAT
Slug	ATTCGGACCCACACATTACCTTG	GATGAGCCCTCAGATTTGACCT
ZEB1	TAAGCAAACGATTCTGATTCCC	CCTCTACATTTGATACTCCTTCTG
TUBA	GATTCCTTCAACACCTTCTTCAG	GTGCGAACTTCATCAATGAC

shRNA	Sequence
ShMTDH-#1	CATCTGCAGCCGAGGAATAAA
ShMTDH-#2	TGAAGACTGGCCTTATTAATG
Mouse-shMTDH-#3	GCTTTGATCAAATGTATAATC
shSND1-#1	TCCACCGTGTTGCAGATATAT
shSND1-#2	GACAGCGTAGTTCGGGATATC
shSND1-#3	TGTCCTAGTGGAGGGAGTAAT
ShRNA-NC	CCGAATTACTCCTAGAACCGC

Supplementary Table 2. Characteristics of the corresponding antibodies included in the context.

Protein	Assay	Antibody	Origin	Dilution	Incubation period
MTDH	IHC	13860-1-AP proteintech	Rabbit	1/10000	overnight, 4°C
	WB			1/2000	
	IF			1/500	
SND1	WB	60265-1-Ig proteintech	Mouse	1/1000	overnight, 4°C
	IHC			1:20000	
	IF			1/200	
Snail	WB	9728T	Rabbit	1/1000	overnight, 4°C
		CST			
p-ERK1/2-S217/221	WB	9911T	Rabbit	1/1000	overnight, 4°C
		CST			
ERK1/2	WB	16443-1-AP	Rabbit	1/1000	overnight, 4°C
		proteintech			
p-NF-κB-S536	WB	ab76302	Rabbit	1/1000	overnight, 4°C
		abcam			
p-P38-T180/Y182	WB	Ab195049	Rabbit	1/1000	overnight, 4°C
		abcam			
p-90RSK-S380	WB	9911T	Rabbit	1/1000	overnight, 4°C
		CST			
β-actin	WB	TA-09,	Mouse	1/2000	overnight, 4°C
		ZSGB Bio			
goat anti-rabbit IgG-HRP	WB	sc-2030, Santa Cruz	Goat	1/5000	1 hour, RT
goat anti-mouse	WB	sc-516102, Santa Cruz	Goat	1/5000	1 hour, RT

IgG-HRP

goat anti-rabbit Alexa Fluor® 488	IF	ab150077, abcam	Goat	1/200	1 hour, RT
goat anti-mouse Alexa Fluor® 647	IF	ab150075, abcam	Goat	1/200	1 hour, RT

Abbreviations: IHC, immunohistochemistry; IF, immunofluorescence; WB, Western blot; RT, room temperature. CST, Cell signaling Technology

Supplementary Table 3. Uni- and multi-variate Cox regression of MTDH protein expression for overall survival (OS) in 111 ccRCC from Peking University First Hospital.

Clinicopathological features	Univariate analysis		Multivariate analysis	
	HR (95% CI)	p	HR (95% CI)	p
Age(≥60 vs <60)	2.086(1.003,4.337)	0.048935		
Gender(Male vs Female)	0.745(0.341,1.627)	0.460226		
Maximum diameter of tumors (>5cm vs ≤5cm)	2.873(1.310,6.299)	0.008414		
Histologic grade(G3 vs G2 vs G1)	2.213(1.161,4.217)	0.015798		
Laterality(Left vs Right vs Both)	0.300(0.140,0.640)	0.001875	0.365(0.168,0.793)	0.010943
pT(T3/4 vs T1/2)	1.956(0.937,4.080)	0.073896		
pN(N1/2 vs N0)	17.620(3.556,87.304)	<0.001	11.016(1.950,62.215)	0.006602
pM(M1 vs M0)	54.498(4.942,601.024)	0.001097	67.389(3.911,1161.209)	0.003745
MTDH expression(High vs Low)	3.318(1.473,7.478)	0.00381	2.609(1.128,6.031)	0.024923

Supplementary Table 4. Uni- and multi-variate Cox regression of MTDH protein expression for progression-free survival (PFS) in 111 ccRCC from Peking University First Hospital.

Clinicopathological features	Univariate analysis		Multivariate analysis	
	HR (95% CI)	p	HR (95% CI)	p
Age(≥60 vs <60)	2.281(1.216,4.279)	0.010187	3.122(1.587,6.144)	<0.001
Gender(Male vs Female)	0.683(0.348,1.339)	0.266791		
Maximum diameter of tumors (>5cm vs ≤5cm)	2.864(1.478,5.551)	0.001826	2.576(1.176,5.641)	0.017967
Histologic grade(G3 vs G2 vs G1)	2.960(1.691,5.179)	<0.001		
Laterality(Left vs Right vs Both)	0.518(0.283,0.948)	0.033049		
pT(T3/4 vs T1/2)	3.245(1.747,6.027)	<0.001	2.059(0.988,4.290)	0.053772
pN(N1/2 vs N0)	19.906(4.079,97.158)	<0.001	6.537(1.239,34.483)	0.026904
pM(M1 vs M0)	54.498(4.942,601.024)	0.001097	67.113(5.499,819.144)	<0.001
MTDH expression(High vs Low)	3.550(1.773,7.108)	<0.001		

Supplementary Table 5. Correlation between SND1 mRNA expression and clinicopathological features of ccRCC patients in TCGA-KIRC dataset.

Clinicopathological features		SND1 mRNA expression		p
		Low	High	
Age	<60	125	118	0.514402
	≥60	138	146	
Gender	Female	104	81	0.033077
	Male	159	183	
Histologic grade	G1/2	141	98	<0.001
	G3/4	117	163	
pT	T1-T2	181	157	0.025214
	T3-T4	82	107	
pN	N0	120	119	0.014768
	N1-2	3	13	
pM	M0	212	205	0.015371
	M1	28	50	