

Supplementary Table S1 Primary antibodies for immunohistochemistry (IHC)

Antibody	Catalog NO.	Vendor	Dilution
Anti-NNMT	sc-376048	Santa Cruz Biotechnology	1:100
Anti-CD206	AF2534	R&D Systems, Minneapolis	1:2000
Anti-F4/80	70076	Cell Signaling Technology	1:1000
Anti-Arginase 1	3668	Cell Signaling Technology	1:1000
Anti-CD204	AF1797	R&D Systems, Minneapolis	1:2000
Anti-iNOS	ab3523	Abcam	1:500
Anti-PDGFR α	3174	Cell Signaling Technology	1:100
Anti-CD68	ZM-0060	ZSGB-BIO	1:100
Anti-cytokeratin	ZM-0067	ZSGB-BIO	1:100
horseradish peroxidase-conjugated secondary antibodies	7074	Cell Signaling Technology	1:2000

Supplementary Table S2 The expression levels of NNMT of UBC patients in the SYSMH cohort and the SYSUCC cohort

The intensity score	SYSMH cohort (cohort A)	SYSUCC cohort (cohort B)
0	19 (10.73%)	5 (3.125%)
1+	32 (18.08%)	76 (47.5%)
2+	57 (32.21%)	23 (14.375%)
3+	69 (38.98%)	56 (35%)

NOTE: The staining intensity score was classified as follows: 0 (no staining), 1+ (weak staining), 2+ (moderate staining), or 3+ (strong staining).

Abbreviations: NNMT, nicotinamide N-methyltransferase; UBC, urothelial bladder cancer.

Supplementary Table S3 Oligonucleotides of RT-qPCR Primers used in the study

Targets	Forward Seq	Reverse Seq
NNMT	5'-GTTTGGTTCTAGGCACTCTG-3'	5'-GCAGGTTCTGGTCTGAGTA-3'
SAA1	5'-CCAATCTCCGACCTGCTG-3'	5'-GCTTTGTATCCCTGCCCTGAG-3'
PDGFR α	5'-CCATTAACCATGTGCCCGAG-3'	5'-AGATCAGGAAGTTGGCCGAT-3'
FAP	5'-TGAACGAGTATGTTTGCAGTGG-3'	5'-GGTCTTTGGACAATCCCATGT-3'
SPARC	5'-CCCATTGGCGAGTTTGAGAAG-3'	5'-CAAGGCCCGATGTAGTCCA-3'
ACTA2	5'-GTGTTGCCCTGAAGAGCAT-3'	5'-GCTGGGACATTGAAAGTCTCA-3'
CD14	5'-ACGCCAGAACCTTGTGAGC-3'	5'-GCATGGATCTCCACCTCTACTG-3'
CD163	5'-GCGGGAGAGTGGAAGTGAAAG-3'	5'-GTTACAAATCACAGAGACCGCT-3'
CD204	5'-TCGAGGACTCCCAGGATATG-3'	5'-CCCACCGACCAGTCGAAC-3'
CD206	5'-CGTTTACCAAATGGCTTCGT-3'	5'-CCTTGGCTTCGTGGATTTTCAT-3'
GAPDH	5'-ACAACCTTTGGTATCGTGGAAGG-3'	5'-GCCATCACGCCACAGTTTC-3'
NNMT mus	5'-TGTGCAGAAAACGAGATCCTC-3'	5'-AGTTCTCCTTTTACAGCACCCA-3'
Saa3 mus	5'-CGCAGCACGAGCAGGAT-3'	5'-CCAGGATCAAGATGCAAAGAATG-3'
Arg-1 mus	5'-CTCCAAGCCAAAGTCCTTAGAG-3'	5'-GGAGCTGTCATTAGGGACATCA-3'
Il-4 mus	5'-GGTCTCAACCCCCAGCTAGT-3'	5'-GCCGATGATCTCTCTCAAGTGAT-3'
Il-6 mus	5'-CTGCAAGAGACTTCCATCCAG-3'	5'-AGTGGTATAGACAGGTCTGTTGG-3'
Il-10 mus	5'-CTTACTGACTGGCATGAGGATCA-3'	5'-GCAGCTCTAGGAGCATGTGG-3'
Il-12 α mus	5'-CAATCACGCTACCTCCTCTTTT-3'	5'-CAGCAGTGCAGGAATAATGTTTC-3'
Pu.1 mus	5'-GCCTCAGTCACCAGGTTTCC-3'	5'-CTCTCACCCCTCCTCCTCATCTG-3'
CD206 mus	5'-CTCTGTTTCAGCTATTGGACGC-3'	5'-TGGCACTCCCAAACATAATTTGA-3'
CD86 mus	5'-GAGCTGGTAGTATTTTGGCAGG-3'	5'-GGCCCAGGTACTIONTGGCATT-3'
iNOS mus	5'-GTTCTCAGCCCAACAATAACAAGA-3'	5'-GTGGACGGGTTCGATGTCAC-3'
PDGFR β mus	5'-AGGAGTGATAACCAGCTTTAGTCC-3'	5'-CCGAGCAGGTCAGAACAAAGG-3'
GAPDH mus	5'-AGGTCGGTGTGAACGGATTTG-3'	5'-GGGGTCGTTGATGGCAACA-3'
Saa3-Chip mus	5'-TGTGATCCAGGGAAGTGCAT-3'	5'-CAGGAAGCAGGAGTGGGTG-3'

Supplementary Table S4 The association of NNMT⁺ CAFs and clinical parameters in UCB patients in the SYSMH cohort and the SYSUCC cohort

Variable	SYSMH cohort (cohort A) (n = 177)				SYSUCC cohort (cohort B) (n = 160)			
	Low	High	OR	P	Low	High	OR	P
No. of patients	90	87			81	79		
Age			0.86	0.605			1.49	0.208
≤ 60 years	42	44			44	35		
> 60 years	48	43			37	44		
Sex			0.56	0.173			0.82	0.678
Male	73	77			70	70		
Female	17	10			11	9		
Tumor size			1.81	0.062			1.71	0.100
≤ 3cm	38	25			37	26		
> 3cm	52	62			44	53		
Multifocality			0.89	0.692			0.52	0.039
Unifocal	48	49			35	47		
Multifocal	42	38			46	32		
Tumor stage			3.12	<0.001			2.55	0.027
Ta – T1	57	31			20	9		
T2 – T4	33	56			61	70		
Nodal status			4.75	0.001			4.08	0.001
N0	85	68			74	57		
N1 – N2	5	19			7	22		
Histological grade			2.83	<0.001			3.67	<0.001
Low	48	25			34	13		
High	42	62			47	66		

Note: Logistic regression analysis; Significant p-values were shown in bold font.

Abbreviations: NNMT, nicotinamide N-methyltransferase; UBC, urothelial bladder cancer; OR, odds ratio.