

Figure S1. Western blot analysis of the protein expression of GATA6 and LOXL2 in cholangiocarcinoma cell lines. (A) GATA6 expression in QBC939 cells and RBE cells. (B) LOXL2 expression in QBC939 cells and RBE cells. GATA6, GATA-binding protein 6; LOXL2, lysyl oxidase-like 2.

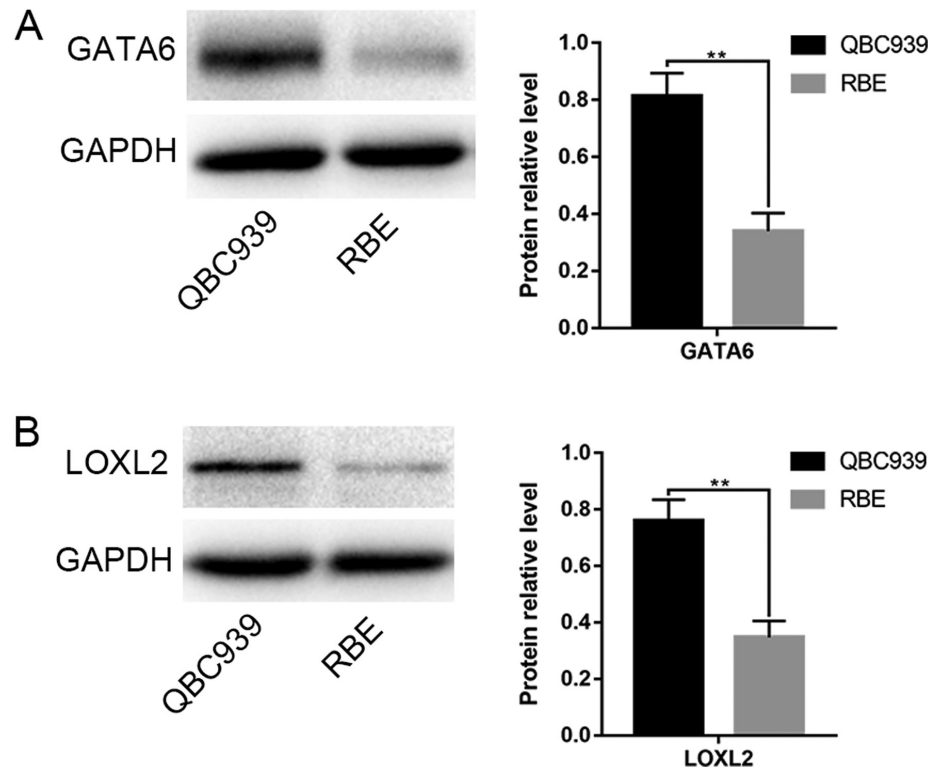


Figure S2. Regulatory association of GATA6 and LOXL2. (A) Effects of LOXL2 knockdown on GATA6 protein levels in QBC939 cells as determined via western blot analysis. (B) Effects of GATA6 knockdown on LOXL2 protein levels in QBC939 cells as determined via western blot analysis. GATA6, GATA-binding protein 6; LOXL2, lysyl oxidase-like 2; sh, short hairpin (RNA).

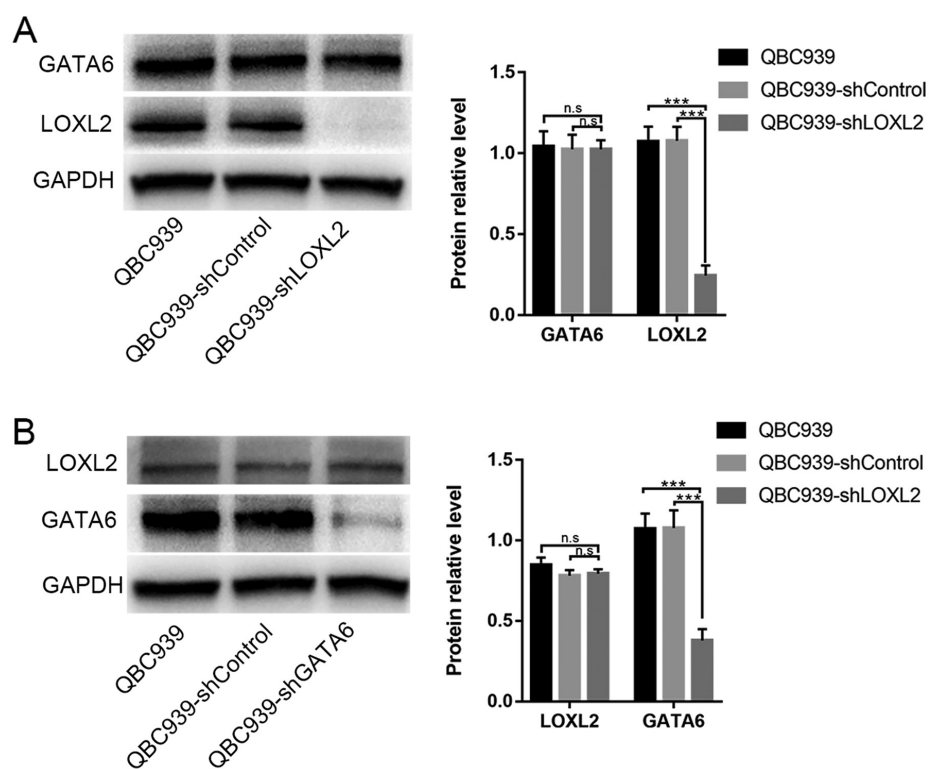


Table SI. Clinical characteristics of 25 patients with CCA classified as GATA6-negative/LOXL2-positive and GATA6-positive/LOXL2-negative.

Characteristics	GATA6-negative/ LOXL2-positive (12)	GATA6-positive/ LOXL2-negative (13)
Age		
<60 years	6	9
≥60 years	6	4
Sex		
Male	5	8
Female	7	5
Location of tumor		
Intrahepatic	5	7
Extrahepatic	7	6
Histological grade		
G1	3	1
G2	7	11
G3	2	1
T classification ^a		
T1 or T2	10	8
T3 or T4	2	5
Lymph node metastasis		
Negative	10	11
Positive	2	2
TNM stage (UICC ^a)		
I or II	9	7
III or IV	3	6
Survival		
≥2 years	4	9
≤2 years	8	4

^aAccording to the 7th UICC-TNM staging manual. CCA, cholangiocarcinoma; GATA6, GATA-binding protein 6; LOXL2, lysyl oxidase-like 2; UICC, Union for International Cancer Control.

Table SII. Human shRNA sequence used in the study.

Gene	shRNA sequence
GATA6	CAGACCACTTGCTATGAAA
LOXL2	GGAGGACACAGAAUGUGAATT
shControl	TTCTCCGAACGTGTCACGT

GATA6, GATA-binding protein 6; LOXL2, lysyl oxidase-like 2; shRNA, short hairpin RNA.

Table SIII. Primer sequences used in the study.

Gene	Sequence
GATA6	Forward: GTGCCCAGACCACTTGCTAT Reverse: TGGAATTATTGCTATTACCAGAGC
LOXL2	Forward: TCCTCAATGCGGAGATGGTG Reverse: CTGTGACAGTCGTGCCAGAT
VEGFA	Forward: GGGCAGAATCATCACGAAGT Reverse: TGGTGATGTTGGACTCCTCA
GAPDH	Forward: AGAAGGCTGGGGCTCATTG Reverse: AGGGGCCATCCACAGTCTTC
VEGFA promoter (for ChIP)	Forward: CTCAGTCCATGCCTCCACAG Reverse: TAGCTGGTTTCTGACCTGGC

ChIP, chromatin immunoprecipitation; GATA6, GATA-binding protein 6; LOXL2, lysyl oxidase-like 2; VEGFA, vascular endothelial growth factor A.