

Supplemental Table 1: The detailed primer sequences for q-RT-PCR

q-RT-PCR						
Gene	Primer	Sequence (5'-3')	Nt	Tm	Length of amplicon	GC%
FGD5-AS1	Forward	ACTAGAAGCGGAGGGGTGAA	20	60.25	126	55
	Reverse	CGCCATTTTGTTCGACGG	20	60.18		55
GAPDH	Forward	GAAAGCCTGCCGGTGACTAA	20	60.32	113	55
	Reverse	GCATCACCCGGAGGAGAAAT	20	59.82		55

Supplemental Table 2: The detailed clinical information of TCGA-KIRC patients

Clinicopathologic characteristics		N(%)
Age	<60	247 (46.0)
	>=60	290 (54.0)
Gender	Male	346 (64.4)
	Female	191 (35.6)
Tumor stage	T1	275 (51.2)
	T2	69 (12.8)
	T3	182 (33.9)
	T4	11 (2.1)
Metastasis	No	446 (84.6)
	Yes	81 (15.4)
Lymph node stage	N0	240 (44.7)
	N1	17 (3.2)
	NX	280 (52.1)
Pathological stage	Stage I	269 (50.3)
	Stage II	57 (10.6)
	Stage III	125 (23.4)
	Stage IV	84 (15.7)
Histological grade	G1	14 (2.7)
	G2	230 (43.5)
	G3	207 (39.1)
	G4	78 (14.7)
VHL mutation	No	284 (53.7)
	Yes	245 (46.3)