

Figure S1. Efficacy of AMPK α 2 KD verified by reverse transcription-quantitative PCR. Expression levels of AMPK α 2 mRNA were downregulated by 76% in the Ctrl + shAMPK α 2KD group compared with Ctrl + shCtrl group; housekeeping gene β -actin was used as an endogenous control. *P<0.05 Ctrl + shCtrl vs. Ctrl + shAMPK α 2 KD. AMPK α 2, AMP-activated protein kinase α 2; KD, knockdown; Ctrl, control; sh, short hairpin.

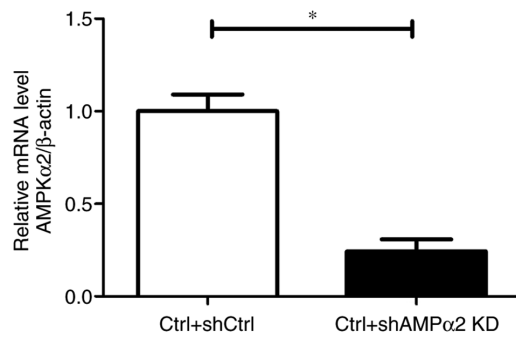


Table SI. Reverse transcription-quantitative PCR primer sequences.

Gene	Reverse sequence (5'→3')	Forward sequence (5'→3')
AMP-activated protein kinase $\alpha 2$	CACTTGACCGAGGTCTGTGGA	TGAGCTTACAGCTTTACCTGGTTGA
v-ets erythroblastosis virus	TGAACTCATTCACAGCCCACATC	ATGTCCCAGGCACTGAAAGCTAC
E26 oncogene homolog-1		
Ribosomal protein S6 kinase A1	GTGCCAGCTCAGCCAGGTAA	CAGACCGAGGGCAAGCTCTA
cAMP responsive element binding protein 1	GCACTAAGGTTACAGTGGGAGCAGA	ACAGTTCAAGCCCAGCCACAG
CRK proto-oncogene, adaptor protein	GAAGTGACCTCGTTTGCCATTACA	CAGAAGCGAGTCCCTAATGCCTAC
HRas proto-oncogene, GTPase	TTCCTTCCTTCCCTCCTCTTTC	CTGCAGTCAGTCATGTCCTTTGT
β -actin	CAGAGGCATACAGGGACAACAA	CCTAAGGCCAACCGTGAAAA

Table SII. Genes inhibited in the ERK/MAPK signaling pathway following AMP-activated protein kinase α 2 knockdown.

Gene symbol	Gene name	Fold-change	P-value
PIK3CA	Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit α	-3.5705	4.79x10 ⁻¹⁰
PPP2CA	Protein phosphatase 2 catalytic subunit α	-5.5888	2.06x10 ⁻¹¹
DUSP6	Dual specificity phosphatase 6	-4.5839	2.39x10 ⁻¹⁰
HRAS	HRas proto-oncogene, GTPase	-3.7750	6.73x10 ⁻¹²
PPP1CB	Protein phosphatase 1 catalytic subunit β	-4.0836	1.30x10 ⁻¹⁰
CRK	CRK proto-oncogene, adaptor protein	-4.1398	6.45x10 ⁻¹²
KRAS	KRAS proto-oncogene, GTPase	-5.5620	4.50x10 ⁻¹⁴
PPP1R14B	Protein phosphatase 1 regulatory inhibitor subunit 14B	-3.6505	4.40x10 ⁻¹⁰
KSR1	Kinase suppressor of ras 1	-3.1920	9.25x10 ⁻¹¹
SHC1	SHC adaptor protein 1	-3.3394	1.28x10 ⁻¹²
LAMTOR3	Late endosomal/lysosomal adaptor, MAPK and MTOR activator 3	-3.1875	4.01x10 ⁻¹²
CREB1	cAMP responsive element binding protein 1	-4.7227	1.88x10 ⁻¹⁰
PPM1L	Protein phosphatase, Mg ²⁺ /Mn ²⁺ -dependent 1L	-7.1433	1.31x10 ⁻¹³
PRKCA	Protein kinase C α	-4.9055	7.76x10 ⁻¹³
ETS1	ETS proto-oncogene 1, transcription factor	-14.6230	3.94x10 ⁻¹⁶
NRAS	NRAS proto-oncogene, GTPase	-5.4436	5.72x10 ⁻¹³
ATF1	Activating transcription factor 1	-3.2501	3.82x10 ⁻¹²
GRB2	Growth factor receptor bound protein 2	-3.5925	2.41x10 ⁻¹⁰
PPP2R5D	Protein phosphatase 2 regulatory subunit B Δ	-4.8080	6.42x10 ⁻¹²
CREBBP	CREB binding protein	-3.1390	2.20x10 ⁻¹⁰
PRKAR2A	Protein kinase cAMP-dependent type II regulatory subunit α	-5.1799	6.55x10 ⁻¹²
MKNK2	MAP kinase interacting serine/threonine kinase 2	-5.4611	6.23x10 ⁻¹²
RAP1A	RAP1A, member of RAS oncogene family	-3.7279	4.25x10 ⁻¹³
ELF2	E74-like ETS transcription factor 2	-3.1901	2.47x10 ⁻¹¹
H3F3A/H3F3B	H3 histone family member 3A	-3.2615	2.56x10 ⁻¹²
TLN2	Talin 2	-4.8862	3.73x10 ⁻¹¹
PRKAR2B	Protein kinase cAMP-dependent type II regulatory subunit β	-4.3200	3.14x10 ⁻⁹
PRKCI	Protein kinase C ι	-3.0938	1.15x10 ⁻¹¹
RRAS2	RAS related 2	-4.4642	1.41x10 ⁻¹¹
PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	-3.3871	5.80x10 ⁻¹¹
PAK2	p21 (RAC1) activated kinase 2	-3.8265	3.00x10 ⁻¹²
PIK3CB	Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit β	-6.0141	8.71x10 ⁻¹³
RPS6KA1	Ribosomal protein S6 kinase A1	-3.0479	3.80x10 ⁻¹¹
ELK3	ELK3, ETS transcription factor	-7.5078	2.04x10 ⁻¹⁴
PPP2R1B	Protein phosphatase 2 scaffold subunit A β	-8.2261	4.44x10 ⁻¹⁴
ESR1	Estrogen receptor 1	-3.0827	1.12x10 ⁻⁸