

Figure S1. IDH1 mRNA expression levels change with IDH1 overexpression or knockdown. Reverse transcription-quantitative PCR verification of (A) IDH1 knockdown and (B) IDH1 overexpression. \* $P < 0.05$  vs. shScramble/Ctrl. IDH1, isocitrate dehydrogenase 1; sh, short hairpin; shScramble, scramble shRNA; shIDH1-1/2, IDH1 shRNA plasmids 1/2; Ctrl, control; IDH1-OE, IDH1 overexpression cell line.

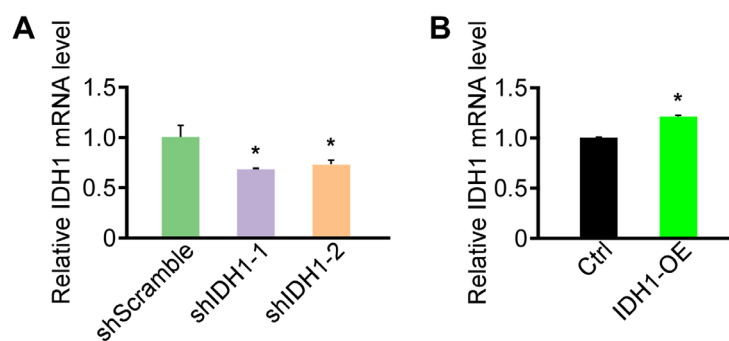


Figure S2. Phosphoinositide 3-kinase/AKT/mammalian target of rapamycin pathway activity was enhanced in primary GBM. The mRNA expression of (A) AKT, PTEN, (B) CDK2, Myc, MDM2, (C) SNAIL2, N-cadherin, vimentin, (D) TWIST1, ZEB1 and RAC1 in primary GBM vs. normal tissues from The Cancer Genome Atlas database. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$  vs. normal. AKT, protein kinase B; PTEN, phosphatase and tensin homolog; CDK2, cyclin-dependent kinase 2; MDM2, mouse double minute 2 homolog; SNAIL2, Snail family transcriptional repressor 2; TWIST1, Twist-related protein 1; ZEB1, zing finger E-box-binding homeobox 1; RAC1, Ras-related C3 botulin toxin substrate 1; GBM, glioblastoma.

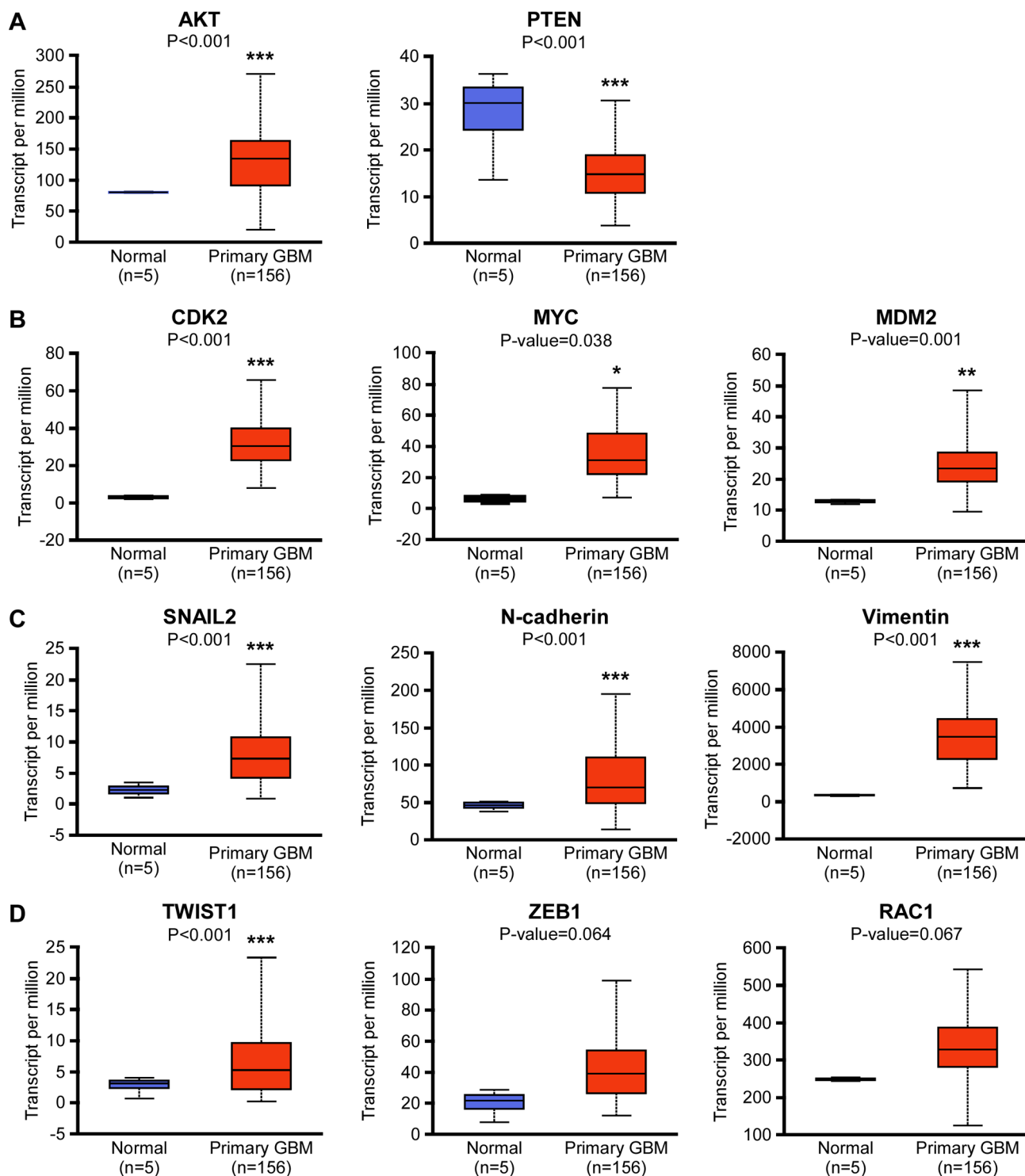


Figure S3. Blocking the phosphoinositide 3-kinase/protein kinase B/mTOR pathway led to delayed cell migration in primary glioblastoma cells. (A) p-mTOR (Ser2448) was repressed by rapamycin in wild-type U87 cells. (B) Semi-quantification of the expression levels from part (A). (C) Rapamycin treatment caused delayed cell migration in U87 cells. (D) Semi-quantification of relative migratory distances in part (C). \*\*\* $P < 0.001$  vs. Mock. mTOR, mammalian target of rapamycin; p-, phosphorylated; Ser, serine; Mock, controls; Rapa, rapamycin.

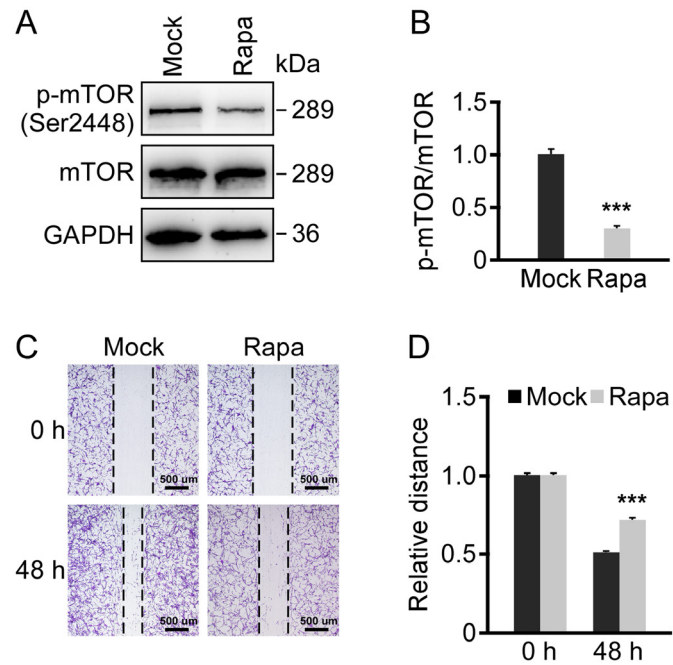


Table SI. Sequences of shRNAs and reverse transcription-quantitative PCR primers.

Name	Sequence (5'→3')
shScramble-s	TGGGTGAACTCACGTCAGAATTCAAGAGATTCTGACGTGAGTTCACCCTTTTTTC
shScramble-as	TCGAGAAAAAAGGGTGAACCTCACGTCAGAATCTCTTGAATTCTGACGTGAGTTCACCCA
shIDH1-1-s	TGCTATAAAGAAGCATAATGTTCAAGAGACATTATGCTTCTTTATAGCTTTTTTC
shIDH1-1-as	TCGAGAAAAAAGCTATAAAGAAGCATAATGTCTCTTGAACATTATGCTTCTTTATAGCA
shIDH1-2-s	TGGGAAGTTCTGGTGTCATATTCAAGAGATATGACACCAGAACTTCCCTTTTTTC
shIDH1-2-as	TCGAGAAAAAAGGGAAGTTCTGGTGTCATATCTCTTGAATATGACACCAGAACTTCCCA
IDH1-F	CTCTGTGGCCCAAGGGTATG
IDH1-R	GGATTGGTGGACGTCTCCTG
GAPDH-F	CAAGCTCATTTCTGCTGGTATGACAA
GAPDH-R	GGGATAGGGCCTCTCTTGCT

sh, short hairpin; s, sense; as, antisense; IDH1, isocitrate dehydrogenase 1; F, forward; R, reverse.