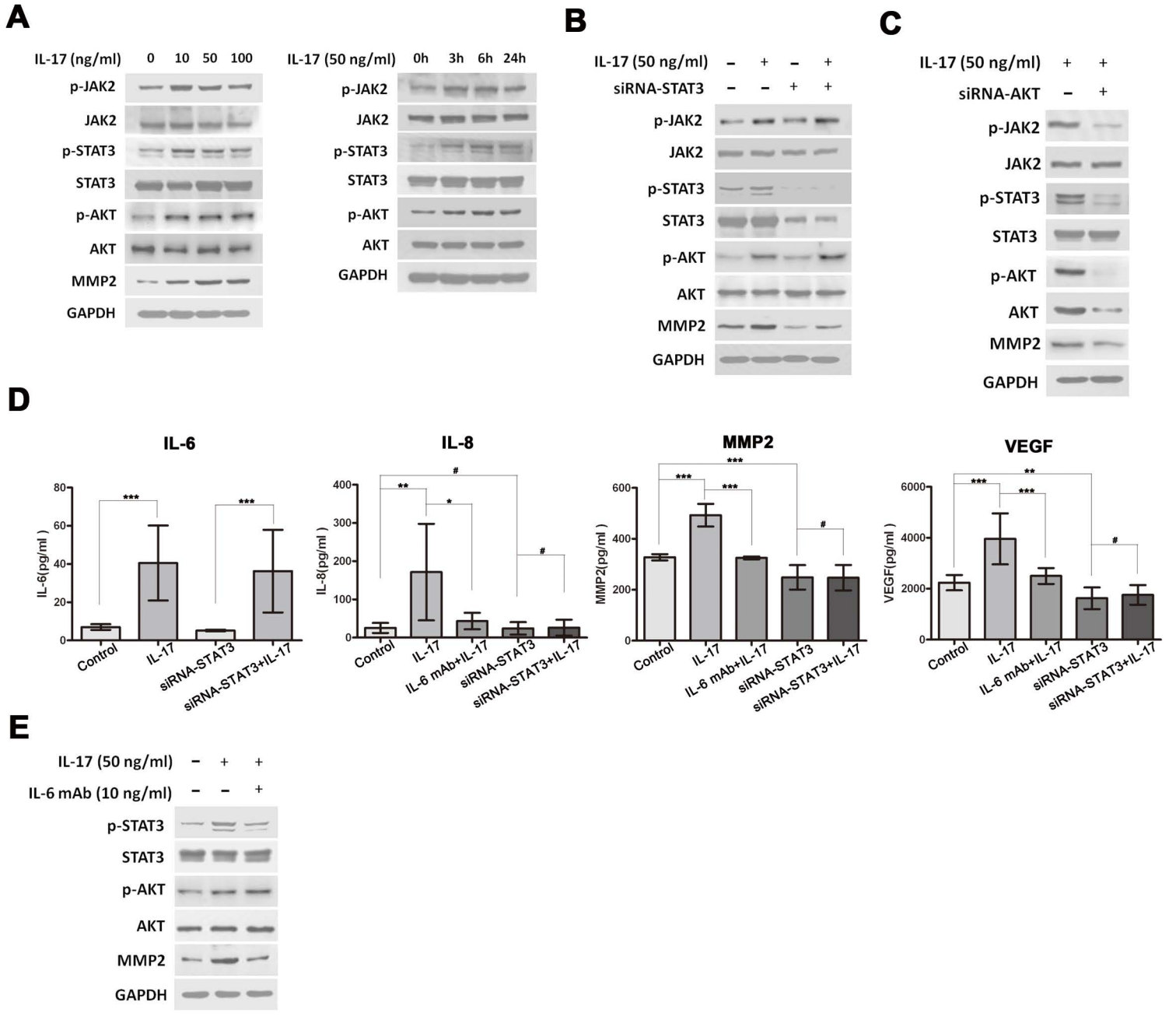
Additional file 3

Figure S3 IL-17 activates AKT and IL-6/STAT3, and up-regulates proinvasive factors production in Huh7 cells. (A) Western blotting showed that phosphorylation of JAK2, STAT3 and AKT were obviously increased as early as 3 h after IL-17 treatment and lasted for 24 h after IL-17 stimulation. Huh7 cells were incubated with IL-17 at the indicated concentrations for 24 h or at 50 ng/ml for the indicated time. **(B and C)** Cells were cultured for 24 h with IL-17 (50 ng/ml). In siRNA-STAT3-Huh7 cells, IL-17-induced AKT and JAK2 phosphorylation were not affected, while in siRNA-AKT- Huh7, IL-17-induced JAK2/STAT3 phosphorylation was significantly reduced. **(D)** HCC cells were cultured for 24 h with IL-17 (50 ng/ml) and/or IL-6 mAb (10 ng/ml), and concentrations of the proinvasive factors in culture supernatants were measured by ELISA. IL-17 selectively up-regulated the production of IL-6, IL-8, MMP2 and VEGF by tumor cells. Both IL-6 mAb and siRNA-STAT3 significantly downregulated the expression of IL-8, MMP2 and VEGF, while IL-17-induced IL-6 upregulation was not altered. **(E)** IL-6 mAb reduced STAT3 activation, whereas AKT activation by IL-17 was not affected. Data are expressed as mean ± SD; Student's *t* test; # $p > 0.05$; *$p < 0.05$, **$p < 0.01$, and ***$p < 0.001$.


A
IL-17 (ng/ml) 0 10 50 100
p-JAK2
JAK2
p-STAT3
STAT3
p-AKT
AKT
MMP2
GAPDH
IL-17 (50 ng/ml) 0h 3h 6h 24h
p-JAK2
JAK2
p-STAT3
STAT3
p-AKT
AKT
GAPDH
B
IL-17 (50 ng/ml) – + – +
siRNA-STAT3 – – + +
p-JAK2
JAK2
p-STAT3
STAT3
p-AKT
AKT
MMP2
GAPDH
C
IL-17 (50 ng/ml) + +
siRNA-AKT – +
p-JAK2
JAK2
p-STAT3
STAT3
p-AKT
AKT
MMP2
GAPDH
D
IL-6
IL-6(pg/ml)
Control
IL-17
siRNA-STAT3
siRNA-STAT3+IL-17
IL-8
IL-8(pg/ml)
Control
IL-17
IL-6 mAb+IL-17
siRNA-STAT3
siRNA-STAT3+IL-17
MMP2
MMP2(pg/ml)
Control
IL-17
IL-6 mAb+IL-17
siRNA-STAT3
siRNA-STAT3+IL-17
VEGF
VEGF(pg/ml)
Control
IL-17
IL-6 mAb+IL-17
siRNA-STAT3
siRNA-STAT3+IL-17
E
IL-17 (50 ng/ml) – + +
IL-6 mAb (10 ng/ml) – – +
p-STAT3
STAT3
p-AKT
AKT
MMP2
GAPDH