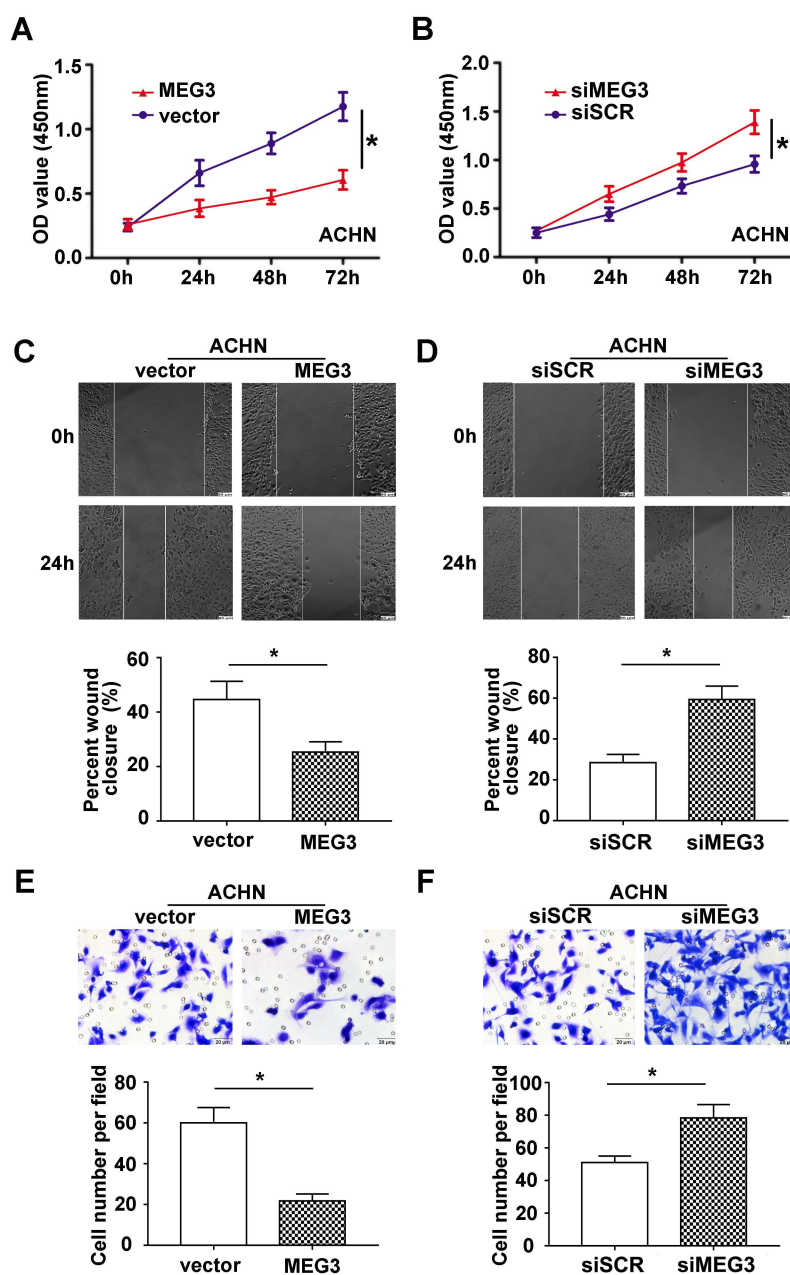


**Fig. S1**



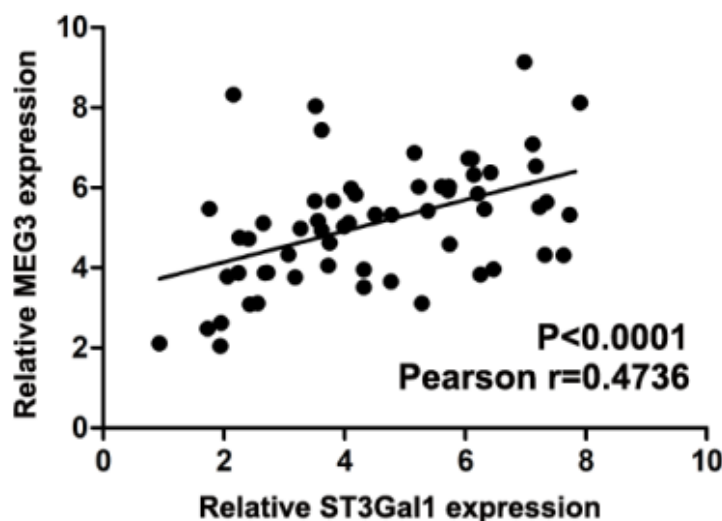
**Fig. S1. LncRNA MEG3 mediated ACHN cell growth and metastasis *in vitro*.**

**A, B.** CCK-8 assay was performed to evaluate the proliferative ability of ACHN cells after transfecting with MEG3 or si-MEG3.

**C, D.** The wound healing assay was used to investigate the migratory ability of MEG3 on ACHN cells.

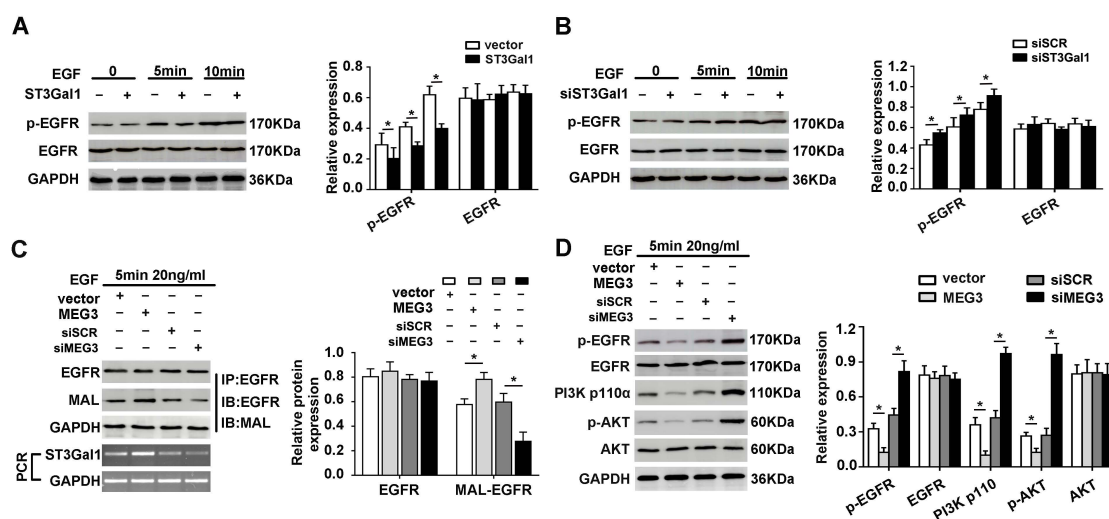
**E, F.** The effect of MEG3 on ACHN cell invasion was determined by transwell assays. The error bars in graphs represented SD, and each experiment was repeated thrice.

**Fig. S2**



**Fig. S2.** The positive correlation was analyzed between ST3Gal1 level and MEG3 level (Pearson  $r = 0.4736$ ).

**Fig. S3**



**Fig. S3. MEG3/ST3Gal1 modulated EGFR phosphorylation in ACHN cells.**

**A, B.** The phosphorylation of EGFR and EGFR were detected in ACHN cells transfected with ST3Gal1 or siST3Gal1 upon EGF (20 ng/ml) stimulation for 0, 5, 10 min by western blot.

**C.** ACHN cells were transfected with MEG3 or si-MEG3 upon EGF (20 ng/ml) stimulation for 5 min, and EGFR expression was evaluated by western blot. Sialylation of EGFR was analyzed by MAL lectin affinity assay. RT-PCR was used to detect ST3Gal1 expression.

**D.** Alteration of MEG3 impacted the activity of PI3K/AKT signaling in ACHN cell transfected with MEG3 or si-MEG3 in the presence of EGF (20 ng/ml, for 5min) by western blot.