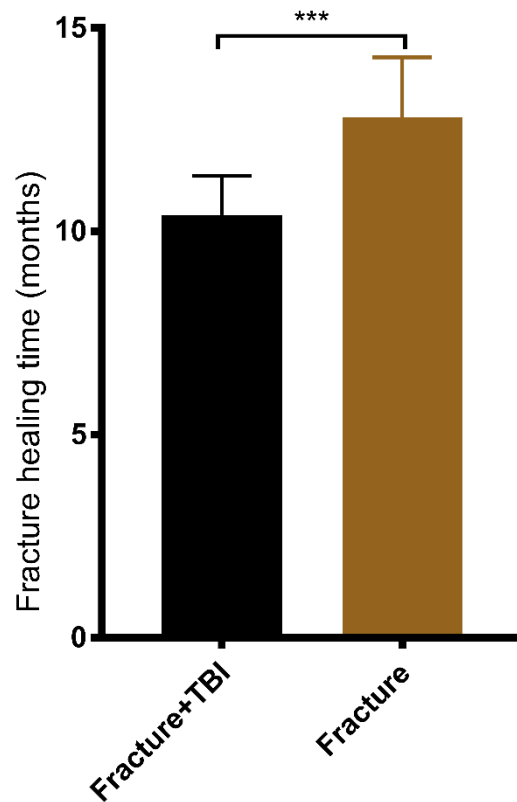


Supplemental information

**miRNA-92a-3p regulates osteoblast
differentiation in patients with concomitant limb
fractures and TBI via IBSP/PI3K-AKT inhibition**

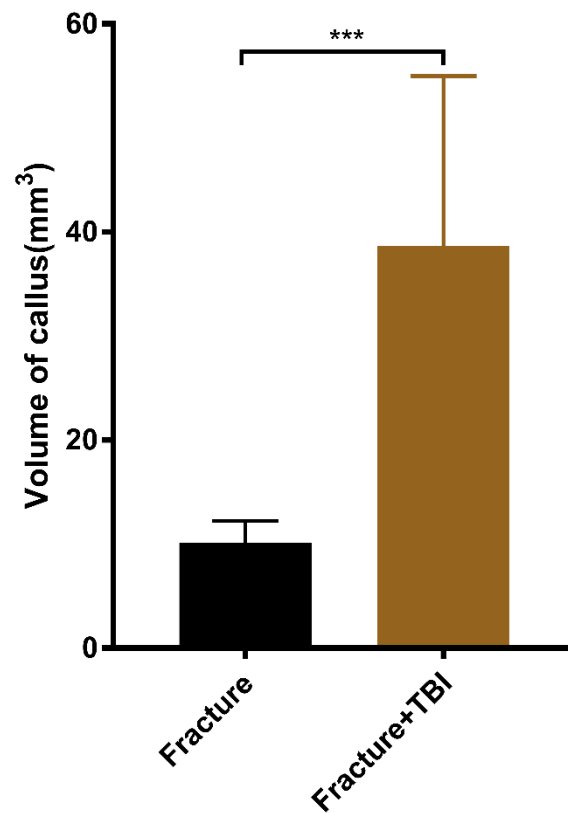
Liangcong Hu, Jing Liu, Hang Xue, Adriana C. Panayi, Xudong Xie, Ze Lin, Tiantian Wang, Yuan Xiong, Yiqiang Hu, Chengcheng Yan, Lang Chen, Abudula Abududilibaier, Wu Zhou, Bobin Mi, and Guohui Liu

Figure S1. Quantitative comparison of fracture healing time in clinical patients



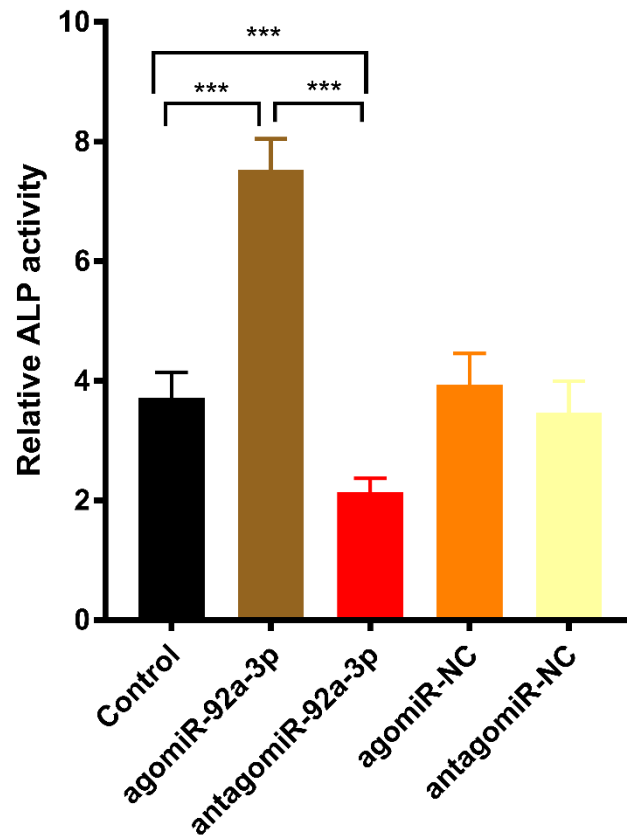
Quantitative analysis and comparison of fracture healing time in patients with concomitant limb fractures and traumatic brain injury and patients with simple fracture. N=10, Data are presented as mean±SD (*p<0.05; **p<0.01; ***p<0.001; # no significance).

Figure S2. Group quantitative analysis of local fracture callus volume in clinical patients



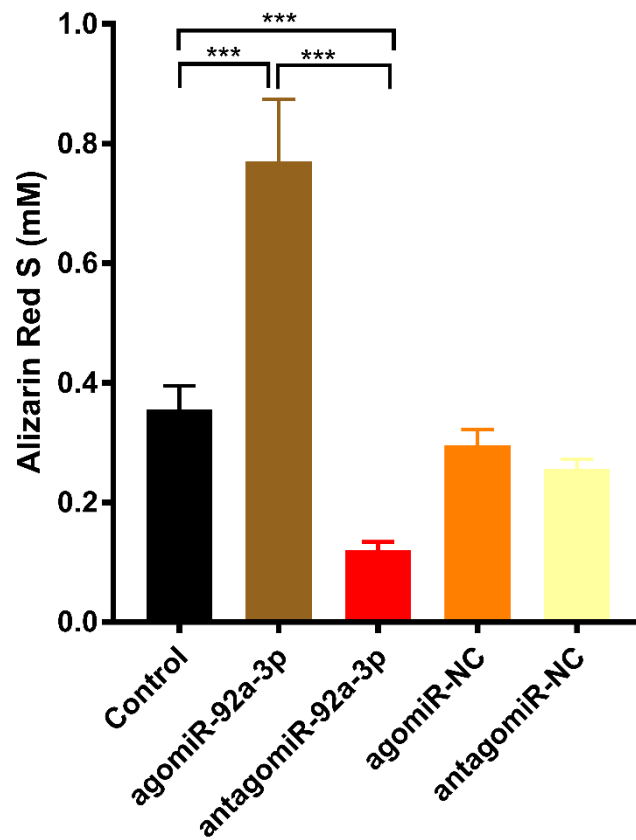
Refer to the Per-kins callus volume calculation method. In short, the formula is $V=2*\Pi*r1*(r2-r1) * l$; $r1$ =radius of bone; $r2$ =radius of bone plus callus; l = length of callus. The last front and lateral X-rays of the limbs before the operation are used to calculate the callus volume. $N=10$, Data are presented as mean \pm SD (* $p<0.05$; ** $p<0.01$; *** $p<0.001$; # no significance).

Figure S3. Quantitative analysis of relative ALP activity



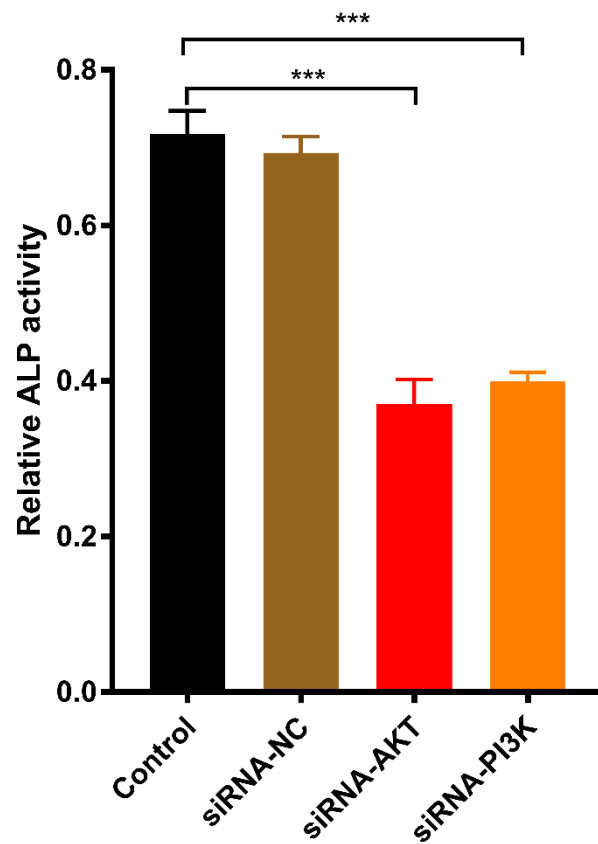
In order to quantify the relative ALP activity, the stained cells were dissolved in 10% (w/v) cetylpyridinium chloride for 10 minutes and extracted by absorbance measurement at 562 nm the solution. Quantitative analysis of relative ALP activity in Figure 3G, N=3, Data are presented as mean \pm SD (*p<0.05; **p<0.01; ***p<0.001; # no significance).

Figure S4. Calcium deposition detection by Alizarin Red staining



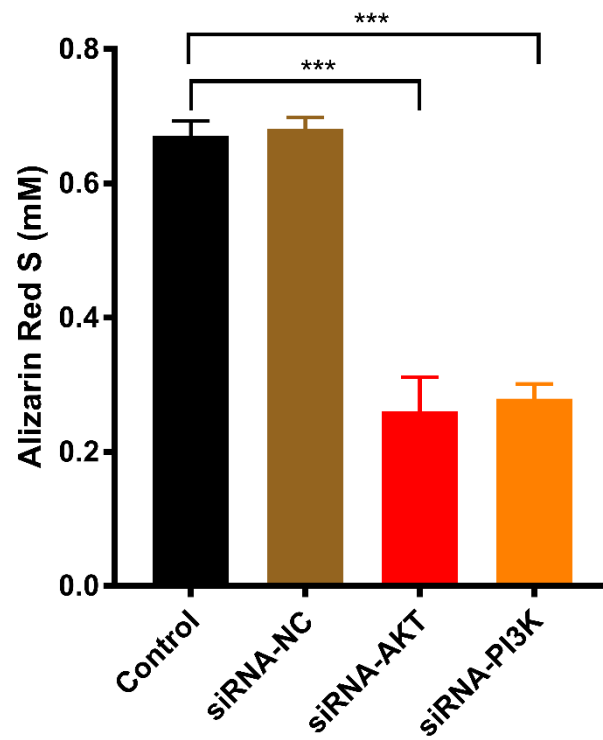
Alizarin red-S staining was quantified by densitometry at 562 nm. Quantitative analysis of Alizarin Red staining in Figure 3H, N=3, Data are presented as mean \pm SD (*p<0.05; **p<0.01; ***p<0.001; # no significance).

Figure S5. Quantitative analysis of relative ALP activity



In order to quantify the relative ALP activity, the stained cells were dissolved in 10% (w/v) cetylpyridinium chloride for 10 minutes and extracted by absorbance measurement at 562 nm the solution. Quantitative analysis of relative ALP activity in Figure 5J, N=3, Data are presented as mean±SD (*p<0.05; **p<0.01; ***p<0.001; # no significance).

Figure S6. Calcium deposition detection by Alizarin Red staining



Alizarin red-S staining was quantified by densitometry at 562 nm. Quantitative analysis of Alizarin Red staining in Figure 5I, N=3, Data are presented as mean \pm SD (*p<0.05; **p<0.01; ***p<0.001; # no significance).