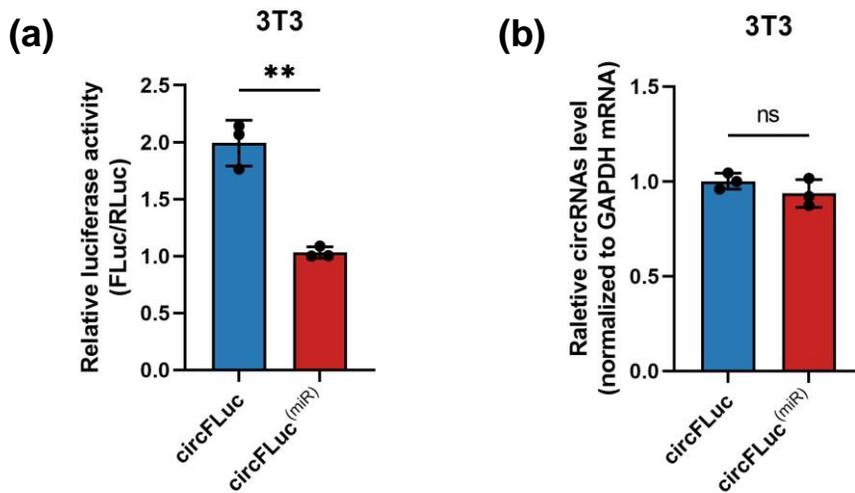
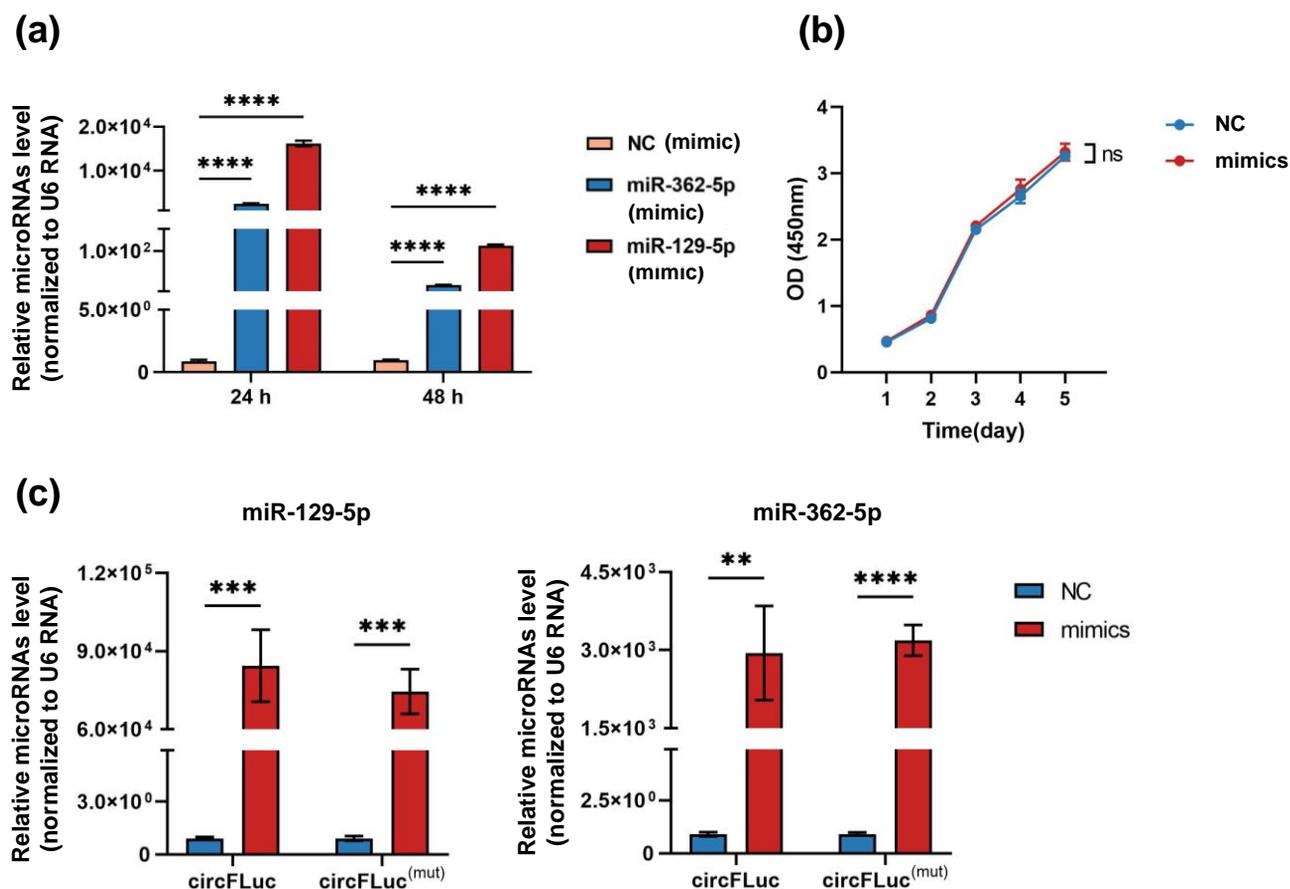


## Figure. S1



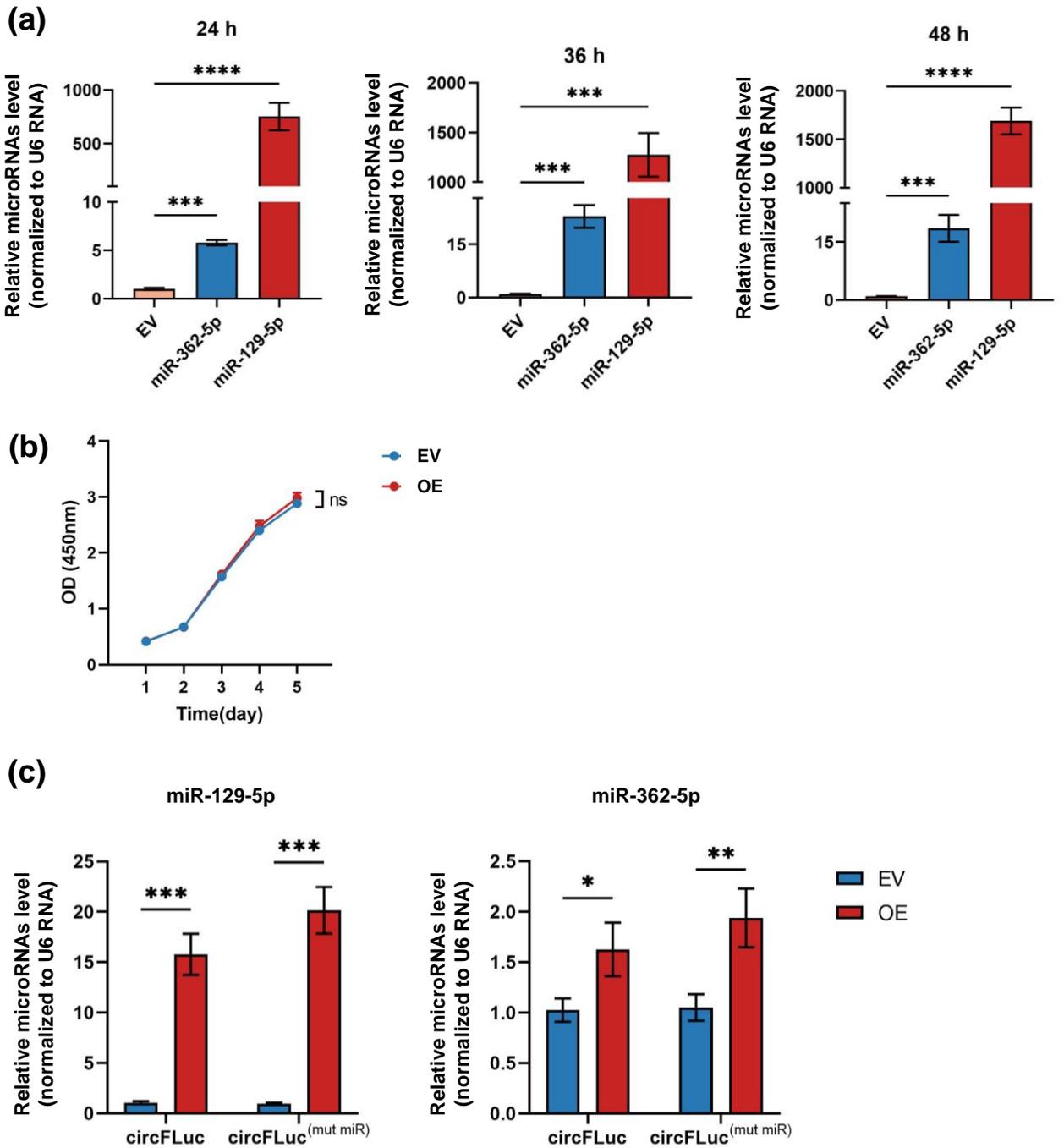
**Figure S1.** The translation efficiency of circFLuc(miR) and circFLuc in NIH3T3 cells. (a) Relative luciferase activity of NIH3T3 cells transfected with circFLuc<sup>(miR)</sup> and circFLuc, with co-transfected circRLuc serving as an internal control, and relative firefly luciferase activity normalized to RLuc (n=3). (b) Relative circRNAs level in NIH3T3 cells transfected with circFLuc<sup>(miR)</sup> and circFLuc, normalized to GAPDH mRNA and circRLuc (n=3). ns, no significance, \*p < 0.05, \*\*p < 0.01.

**Figure. S2**



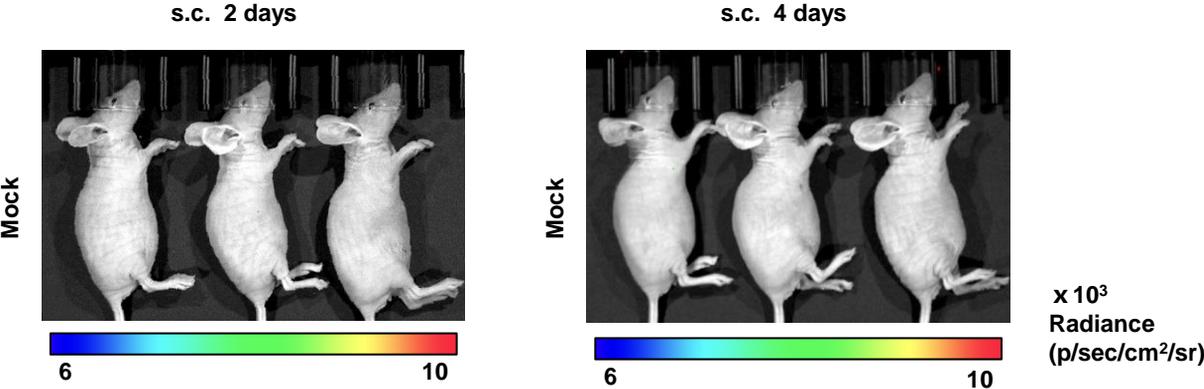
**Figure S2.** MiRNA overexpression levels via mimics transfection. (a) The overexpression levels of miR-129-5p and miR-362-5p were assessed at 24 and 48 hours after transfection of mimics into HEK293T cells. (b) The CCK-8 assay results showed no significant difference in HEK293T cell proliferation between the group transfected with miR-129-5p and miR-362-5p mimics (mimics) and the control group (NC) (n=5). (c) The overexpression levels of miR-129-5p (left) and miR-362-5p (right) were evaluated in the experimental groups of circFLuc (mimics) and circFLuc<sup>(mut)</sup> (mimics) in Fig. 3. NC, Negative control. NC (mimics), Negative control mimics. ns, no significance, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001, \*\*\*\*p < 0.0001.

## Figure. S3



**Figure S3.** MiRNA overexpression levels via plasmids transfection. (a) Plasmids containing 300 bp sequences of the flanking regions of miRNAs and the pri-miRNA sequence were transfected into HEK293T cells, and the overexpression levels were assessed at 24, 36, and 48 hours. (b) The CCK-8 assay results revealed no significant difference in HEK293T cell proliferation between the group transfected with miR-129-5p and miR-362-5p overexpression plasmids (OE) and the control group transfected with empty vector (EV) (n=5). (c) The overexpression levels of miR-129-5p (left) and miR-362-5p (right) were evaluated in the experimental groups of circFLuc (OE) and circFLuc<sup>(mut miR)</sup> (OE) in Fig. 4. EV, Empty vector. ns, no significance, \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ .

# Figure. S4



**Figure S4.** *In vivo* imaging of mock group mice. Live imaging results of subcutaneously injected HepG2 cells at 2 (left) and 4 (right) days post-injection (n = 3 per group, 10<sup>6</sup> cells per mouse).