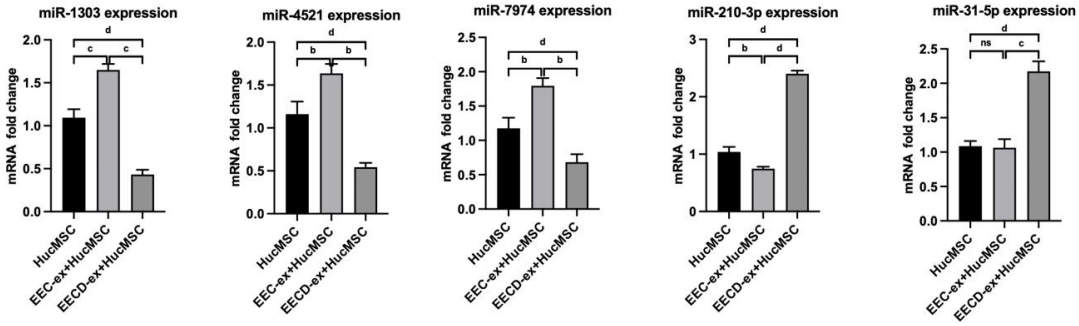
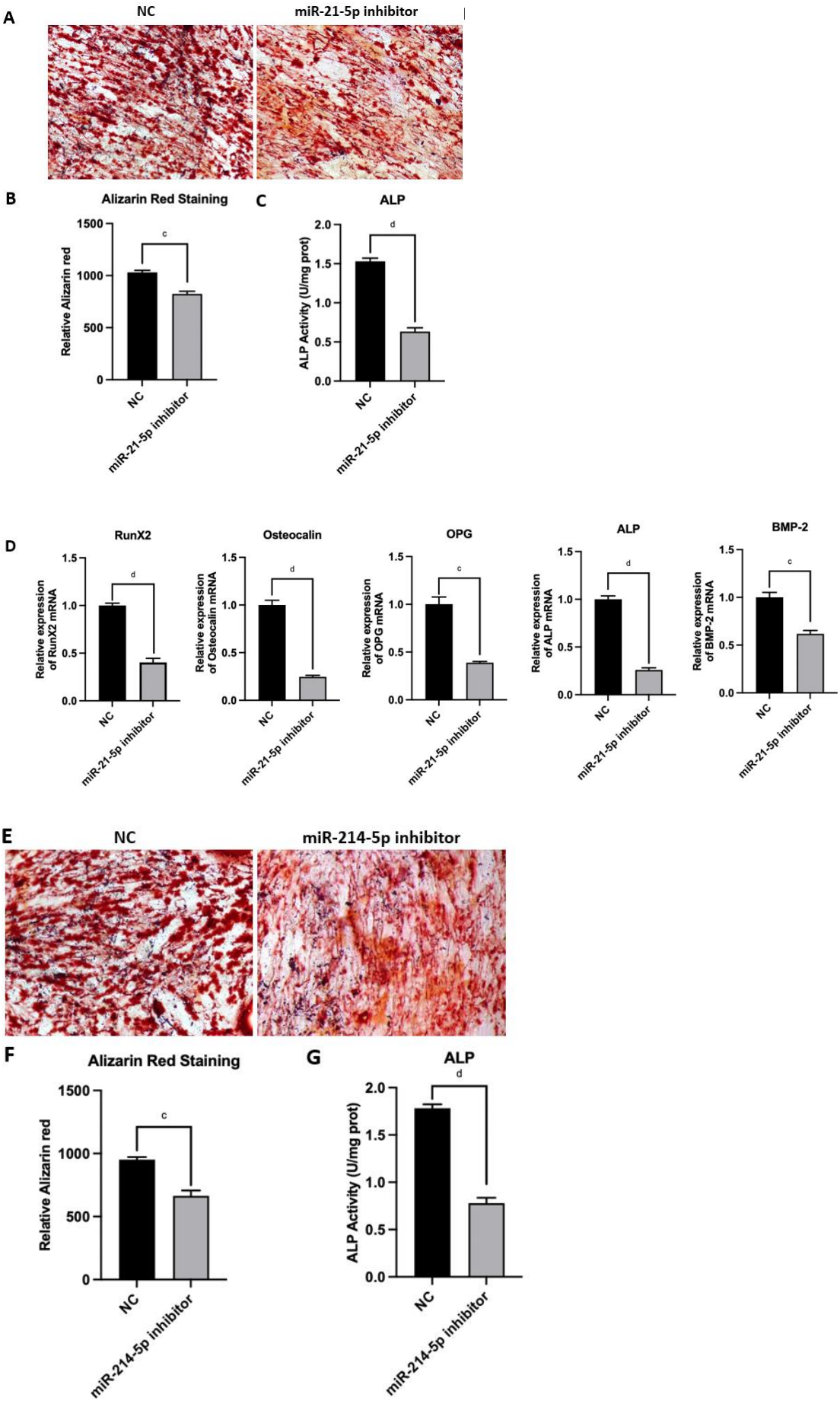
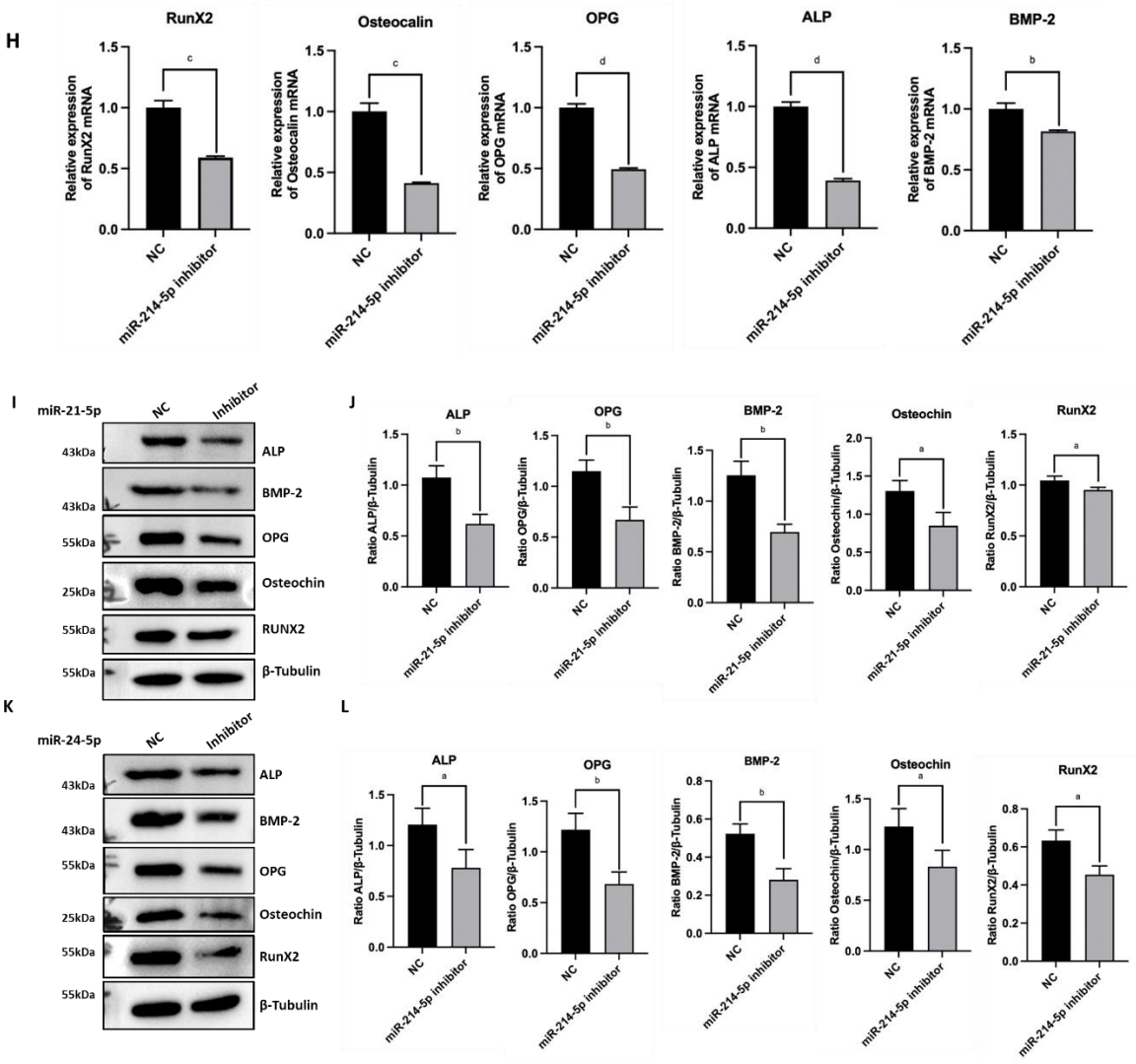


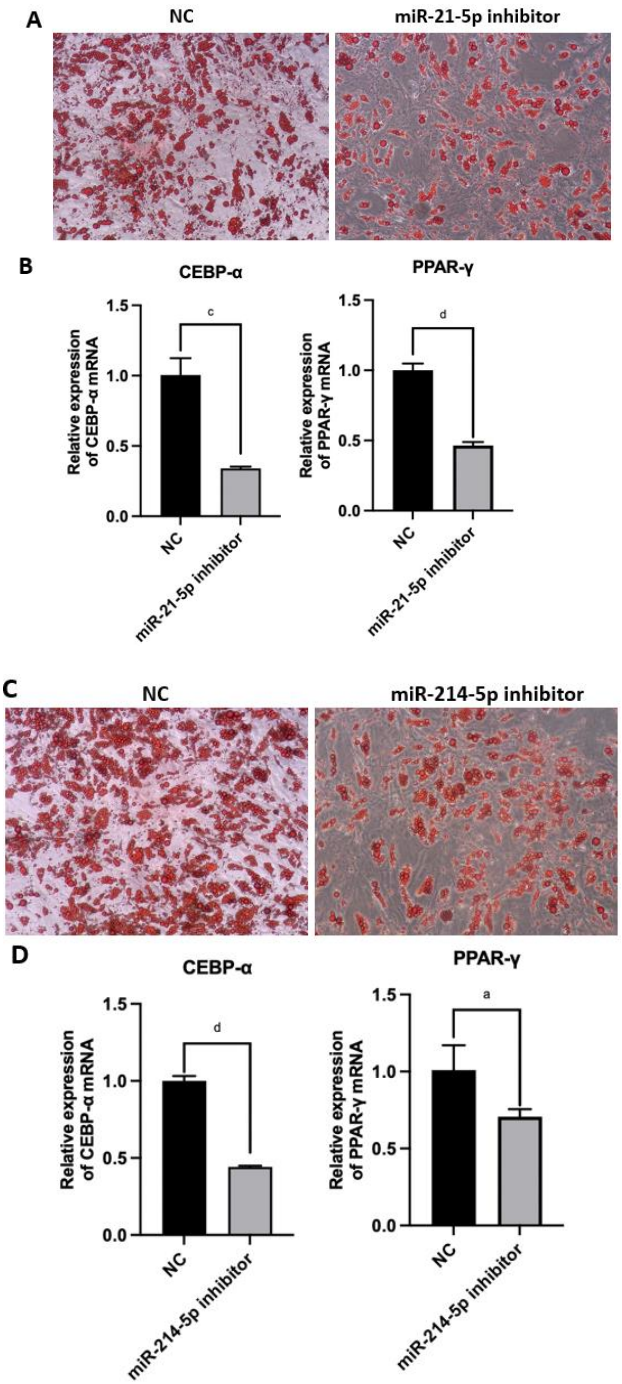
Supplementary Figure 1 Expression of other miRNAs detected using reverse transcription quantitative polymerase chain reaction (RT-qPCR) that were inconsistent with the data from miRNA sequencing. Human umbilical cord mesenchymal stem cells (HucMSCs) were cocultured with exosomes derived endometrial epithelial cells (EED-exs) for hypoxia-damaged EECs (EECD-exs). Expression of miRNAs including miR-1303, miR-4521, miR-7974, miR-210-3p and miR-31-5p were measured using RT-qPCR. n = 3. ns: No significant difference, $^{a}P < 0.05$, $^{b}P < 0.01$, $^{c}P < 0.05$ and $^{d}P < 0.01$. Data were described as mean ± SD.

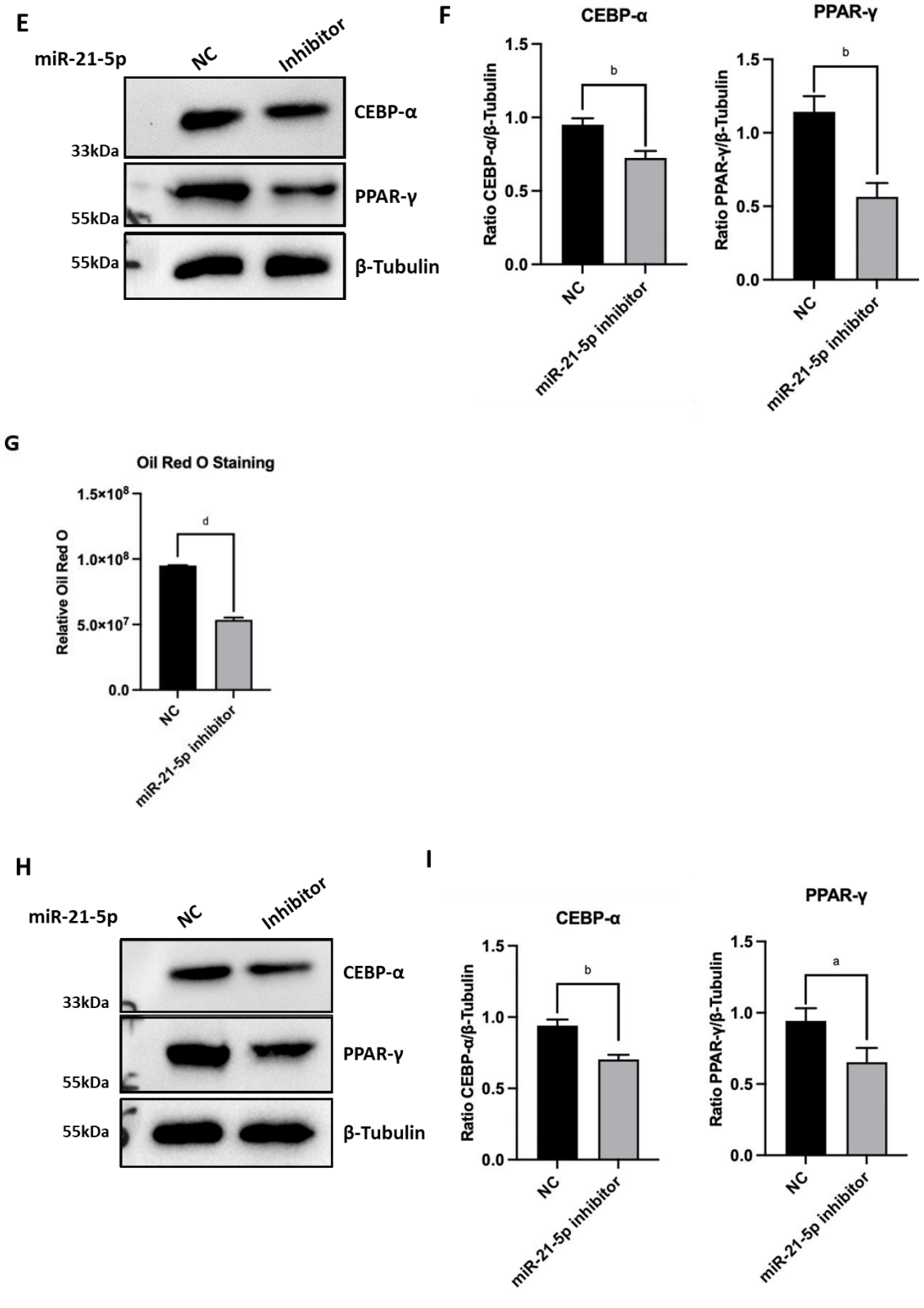

A
NC
miR-21-5p inhibitor
B
Alizarin Red Staining
Relative Alizarin red
1500
1000
500
0
c
NC
miR-21-5p inhibitor
C
ALP
ALP Activity (U/mg prot)
2.0
1.5
1.0
0.5
0.0
d
NC
miR-21-5p inhibitor
D
RunX2
Relative expression of RunX2 mRNA
1.5
1.0
0.5
0.0
d
NC
miR-21-5p inhibitor
Osteocalin
Relative expression of Osteocalin mRNA
1.5
1.0
0.5
0.0
d
NC
miR-21-5p inhibitor
OPG
Relative expression of OPG mRNA
1.5
1.0
0.5
0.0
c
NC
miR-21-5p inhibitor
ALP
Relative expression of ALP mRNA
1.5
1.0
0.5
0.0
d
NC
miR-21-5p inhibitor
BMP-2
Relative expression of BMP-2 mRNA
1.5
1.0
0.5
0.0
c
NC
miR-21-5p inhibitor
E
NC
miR-214-5p inhibitor
F
Alizarin Red Staining
Relative Alizarin red
1500
1000
500
0
c
NC
miR-214-5p inhibitor
G
ALP
ALP Activity (U/mg prot)
2.0
1.5
1.0
0.5
0.0
d
NC
miR-214-5p inhibitor

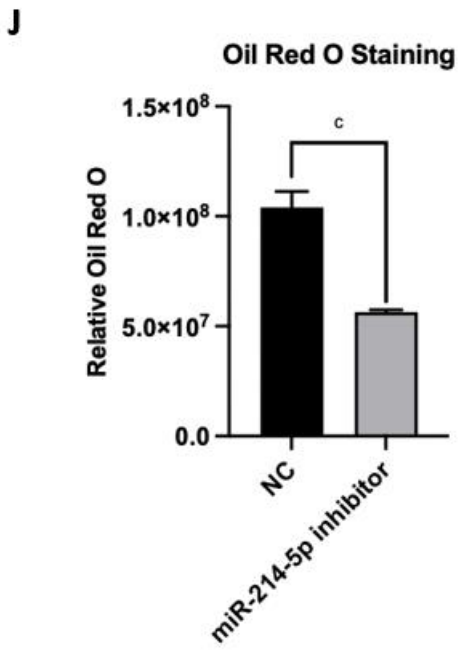


Supplemental Figure 2 miR-21-5p and miR-21-5p inhibitor inhibited stem cell osteogenic differentiation. Human umbilical cord mesenchymal stem cells (Huc-MSCs) were infected with miR-21-5p or miR-214-5p inhibitor lentivirus. The control group was transfected with normal control (NC) virus, and osteogenic differentiation of cells was induced by stem cell osteogenic induction medium. Alizarin red staining showed that the proportion of calcification plaques in the miR-21-5p and miR-214-5p inhibitor groups was significantly increased compared with the NC group (A, B and E, F). Compared with the NC group, expression of alkaline phosphatase (ALP) was significantly increased in the miR-21-5p and miR-214-5p inhibitor groups (C and G). Expression of key genes of osteogenic differentiation was detected by reverse transcription quantitative polymerase chain reaction. Transcription levels of

RunX2, osteocalcin, OPG, ALP and bone morphogenetic protein 2 (BMP-2) were significantly increased in the miR-21-5p and miR-21-5p inhibitor groups compared with the NC group (D and H). Western blotting showed that expression levels of RunX2, osteocalcin, OPG, ALP and BMP-2 proteins in the miR-21-5p and miR-214-5p inhibitor groups were significantly increased compared with those in the NC group (I–L). n = 3. ns: No significant difference, $^{a}P < 0.05$, $^{b}P < 0.01$, $^{c}P < 0.05$ and $^{d}P < 0.01$. Data were described as mean ± SD.


A
NC
miR-21-5p inhibitor
B
CEBP-α
PPAR-γ
Relative expression of CEBP-α mRNA
Relative expression of PPAR-γ mRNA
1.5
1.0
0.5
0.0
c
d
NC
miR-21-5p inhibitor
C
NC
miR-214-5p inhibitor
D
CEBP-α
PPAR-γ
Relative expression of CEBP-α mRNA
Relative expression of PPAR-γ mRNA
d
a
NC
miR-214-5p inhibitor


E
miR-21-5p
NC
Inhibitor
CEBP-α
PPAR-γ
β-Tubulin
33kDa
55kDa
55kDa
F
CEBP-α
PPAR-γ
Ratio CEBP-α/β-Tubulin
Ratio PPAR-γ/β-Tubulin
1.5
1.0
0.5
0.0
b
b
NC
miR-21-5p inhibitor
G
Oil Red O Staining
Relative Oil Red O
1.5×10^8
1.0×10^8
5.0×10^7
0.0
d
NC
miR-21-5p inhibitor
H
miR-21-5p
NC
Inhibitor
CEBP-α
PPAR-γ
β-Tubulin
33kDa
55kDa
55kDa
I
CEBP-α
PPAR-γ
Ratio CEBP-α/β-Tubulin
Ratio PPAR-γ/β-Tubulin
1.5
1.0
0.5
0.0
b
a
NC
miR-21-5p inhibitor



Supplemental Figure 3 miR-21-5p and miR-21-5p inhibitors inhibited stem cell adipogenic differentiation. Human umbilical cord mesenchymal stem cells (Huc-MSCs) were infected with miR-21-5p or miR-214-5p inhibitor lentivirus, and the control group was transfected with normal control (NC) virus. Cells were induced to lipogenic differentiation using stem cell lipogenic induction medium. Oil red O staining showed that compared with the NC group, the proportion of lipid droplets in the miR-21-5p and miR-21-5p inhibitor groups was significantly decreased (A, G and C, J). Expression of lipid differentiation regulatory genes was detected by reverse transcription quantitative polymerase chain reaction. Compared with the NC group, the transcription levels of lipid regulatory genes CEBP-α and PPAR-γ were significantly increased with miR-21-5p and miR-21-5p inhibitor (B, D). Western blotting showed that expression of CEBP-α and PPAR-γ proteins in the miR-21-5p and miR-214-5p inhibitor groups was significantly decreased compared with those in the NC group (E, F and H, I). n = 3. ns: No significant difference, $^{a}P < 0.05$, $^{b}P < 0.01$, $^{c}P < 0.05$ and $^{d}P < 0.01$. Data were described as mean ± SD.