Author Correction: Circular RNA 0001273 in exosomes derived from human umbilical cord mesenchymal stem cells (UMSCs) in myocardial infarction

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After publication, the authors received a comment on PubPeer
"The characterization of exosomes in this study is very limited. There is no characterization of ultrastructure (EM) and size. The anti-CD63 immunoblot does not have the typical smeared appearance and is therefore questionable. In addition, the text is full of errors and unscientific expressions".
The authors thank the reader for pointing out these criticisms and specify that they re-performed some of the assays and then added the exosomes' ultrastructure with TEM. In addition, they replaced a more typical CD63 band. Spelling errors have also been corrected (in the method's section, 'lysate' was changed to 'lysis').

The Publisher apologizes for any inconvenience this may cause.

The correct sections are reproduced below.

Western Blotting Technology

We used protein lysis (Camilo Biological, Nanjing, China) to fully lyse the cells and extracted the total protein from the cells. Added protein loading buffer (Camilo Biological, Nanjing, China) and mixed for 10 minutes in boiling water. Took 15 μg protein samples, and the protein was separated using a 10% sodium dodecyl sulfate-polyacrylamide gel. Then, the dispersed protein was then transferred to a polyvinylidene difluoride (PVDF, Thermo Fisher Scientific, Waltham, MA, USA) membrane for 2 h. And blocked with 8% skim milk for 2 h at room temperature, and then the membrane was incubated with primary antibodies at 4°C overnight. Then added sheep anti-rabbit secondary antibody (Yifei Xue Biotechnology, Nanjing, China, 1:3000) and incubated at room temperature for 2 h. The enhanced chemiluminescence (ECL) kit (Yifei Xue Biotechnology, Nanjing, China) was used for chemiluminescence development, and ImageJ software was used for semi-quantitative analysis. Primary antibodies were as follows: (CD9, Abcam, Cambridge, MA, USA, Rabbit, 1:3000; CD63, Abcam, Cambridge, MA, USA, Rabbit, 1:3000; CD81, Abcam, Cambridge, MA, USA, Mouse, 1:2000; Calnexin, Abcam, Cambridge, MA, USA, Mouse, 1:5000).

Results

Identification of UMSCs – Exos

To investigate the role of circ-0001273 in exosome derived from UMSCs, we first observed the morphology of exosomes through transmission electron microscope. The morphology of exosomes were round or oval with a bilayer membrane structure (Figure 1A). The source exosome was isolated and the expression of the marker CD63 protein molecule in exosome was identified by flow cytometry (Figure 1B). In addition, Western blotting results showed that the specific exosome surface markers CD9, CD63 and CD81 were positive (Figure 1C), and further confirmed the presence of exosomes.

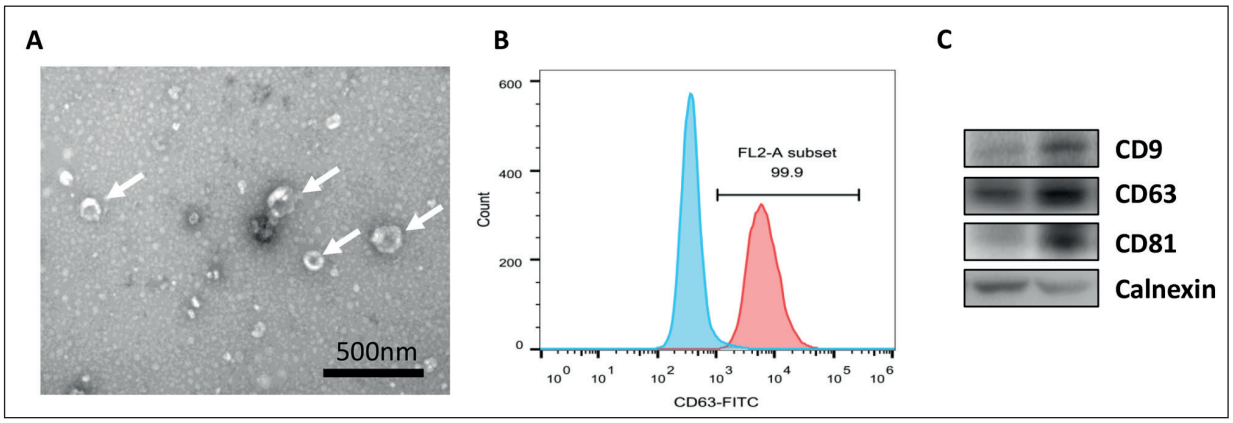

Figure 1. Identification of UMSCs – Exos. **A,** The morphology of exosomes were observed using TEM. The white arrow indicates exosome. Scale bar, 500 nm. **B,** CD63 expression on exosome surface was detected by flow cytometry. **C,** Western blot of specific exosome surface markers.

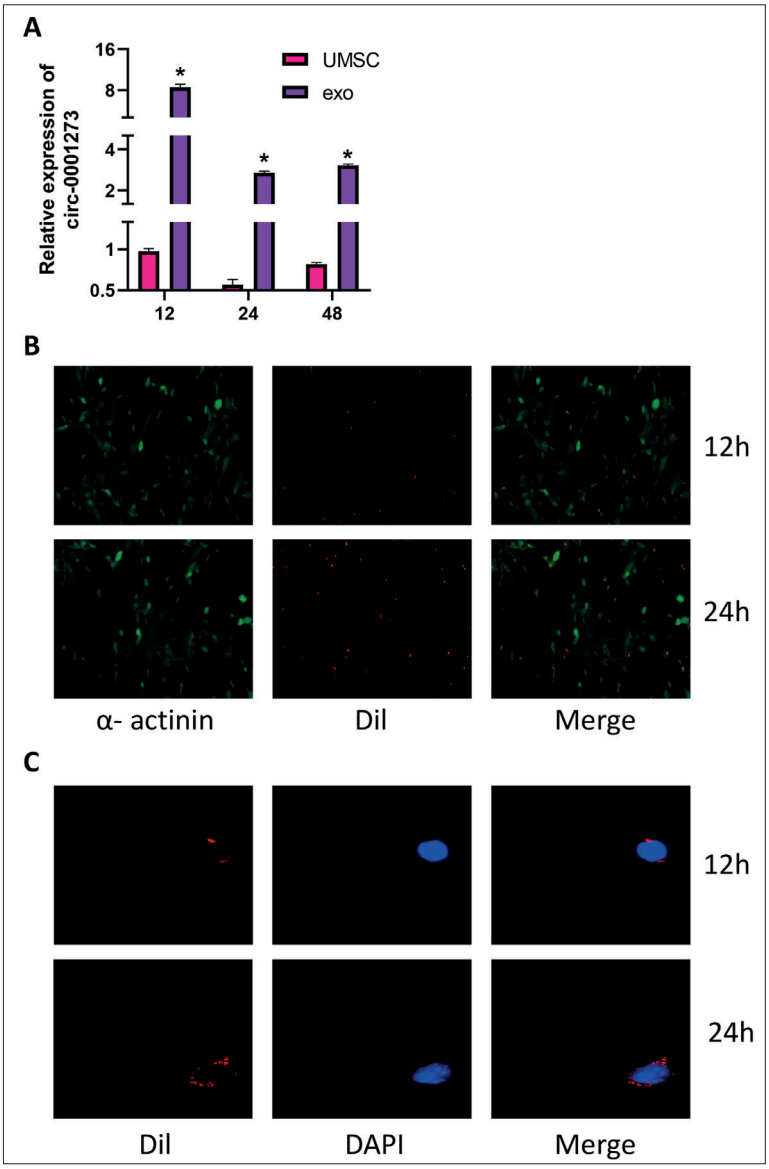

Figure 2. Circ-0001273 expression in exosomes. **A,** The expression of circ-0001273 in UMSCs and UMSCs-derived exosomes in 12 h, 24 h, 48 h. ("*" indicates that compared with the UMSCs-12h group $p < 0.05$). **B-C,** Uptake of DiI-labeled BMSC-Exos by H9c2 cells after 12 h and 24 h. (magnification: 40×).

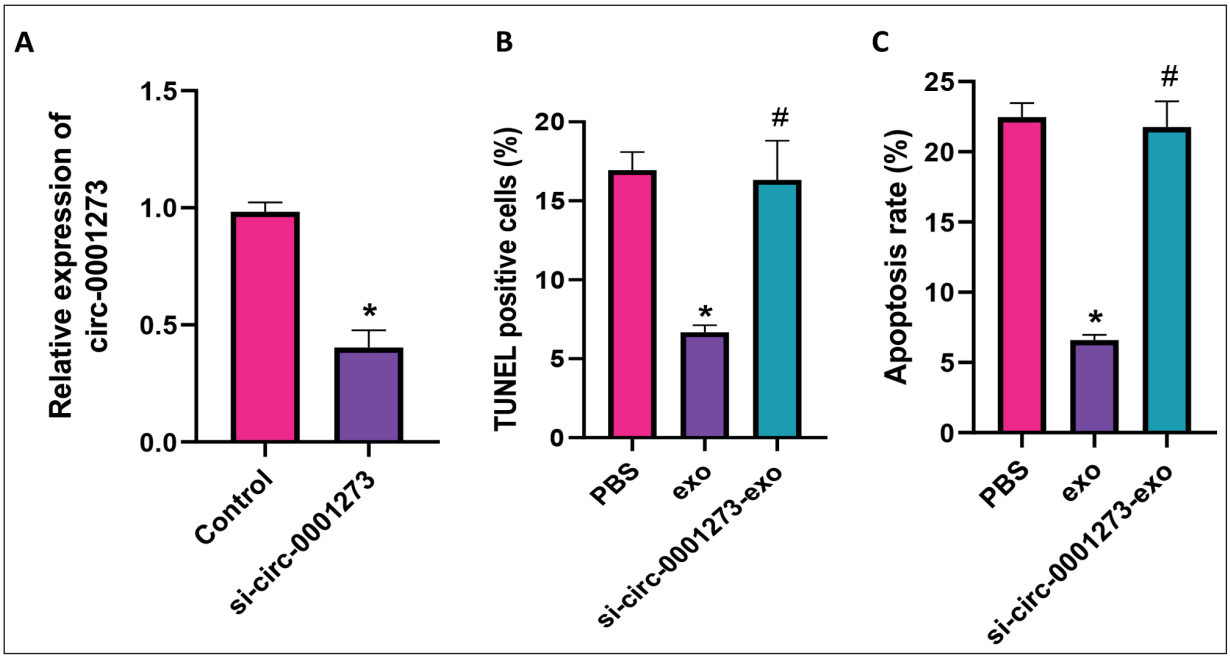

Figure 4. Circ-0001273 repairs MI by inhibiting cardiomyocyte apoptosis. **A,** PCR was used to detect changes in circ-0001273 expression levels in control and si-circ-0001273 groups in H9c2 cells ("*" indicates that compared with the Control group $p < 0.05$). **B,** Statistical results of TUNEL staining in H9c2 cells with PBS, exo, si-circ-0001273-exo. and ("*" indicates that compared with the PBS group, "#" indicates that compared with exo group $p < 0.05$). **C,** Statistical results of flow cytometary in H9c2 cells with PBS, exo, si-circ-0001273-exo ("*" indicates that compared with the PBS group, "#" indicates that compared with exo group $p < 0.05$).