Author’s response to reviews

Title: Identification of differentially expressed miRNAs and mRNAs in synovial of osteoarthritis via RNA-sequencing

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Author’s response to reviews:

Dear editors and reviewers,

Many thanks for your high efficiency of work and good suggestions. We have revised the manuscript according to the comments and the recommendations suggested by the editors and reviewers. The responses to the editors' and reviews' comments are as follows:

Assistant Editor Comments:

1. Formatting
-- We note that your manuscript currently does not include a Conclusions section. Please ensure your main manuscript conforms to the following headings: Background, Methods, Results, Discussion, Conclusions.
Response: Thanks for your comment. We have added a Conclusions section in our manuscript.

2. Availability of Data and Materials
-- Please note that BMC mandates data deposition for the following:

• Protein sequences
• DNA and RNA sequences
• DNA and RNA sequencing data
• Genetic polymorphisms
• Linked genotype and phenotype data
• Macromolecular structure
• Microarray data (must be MIAME compliant)
• Crystallographic data for small molecules

As such, we ask that you please provide the relevant accession numbers if the data has been deposited into a data bank or the appropriate web links if the data has been uploaded into a repository. If the data has not yet been deposited, please do so and provide the relevant information needed to access it in the ‘Availability of data and materials’ section in your manuscript. Please ensure all data is already released and that any accession numbers/web links are in the ‘Availability of Data and Materials’ in their final form, and that all links and accessions allow access to public data.
Response: Thanks for your comment. We have uploaded all raw data to Gene Expression Omnibus (GEO) (GSE143514, https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE143514) and indicated that in the ‘Availability of Data and Materials’ section of our manuscript.

3. Identifying information
-- Currently, the age and gender information present in [TABLE 1], in combination with other identifiers, may compromise patient/participant anonymity.
If you do not have consent to publish, please amend the file to address this issue, by removing this information or by providing ages as age-ranges.
Response: Thanks for your comment. As your request, we have amended table 1.

4. Funding
-- In the Funding section, please also describe the role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.
Response: Thanks for your comment. We have added the description of the role of the funding body in the Funding section as follows: The funding body had no role in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript.

5. Clean Manuscript
-- At this stage, please upload your manuscript as a single, final, clean version that does not contain any tracked changes, comments, highlights, strikethroughs or text in different colours. All relevant tables/figures/additional files should also be clean versions. Figures (and additional files) should remain uploaded as separate files. Please ensure that all figures, tables and additional-supplementary files are cited within the text.
Response: Thanks for your comment. A clean revised manuscript have been uploaded in the submission system.
Reviewer reports:
Shahid Khan (Reviewer 2): The current revised manuscript by Zhou and colleagues showed significant improvement over the previous version. The author addressed all my concerns in the revised manuscript. In addition, they confirmed few targets identified in RNA-Seq data through qRT-PCR and western blot analysis in additional patients' samples.
Response: Thanks for your high efficiency of work and good suggestions.

Bushra Rauf, Ph.D. (Reviewer 3): The authors have appropriately addressed all the previous comments. Although there are certain limitations in this study, still, the paper represents sufficient novel concept that would be a useful addition to the literature.
Response: Thanks for your high efficiency of work and good suggestions.

Bushra Irum, Ph.D. (Reviewer 4): After carefully going through the manuscript, I have assessed that authors have addressed all the comments raised by reviewers 1 & 2 except:

1. Major comment from both reviewers about sample size (Comment #1) is although addressed but not satisfactory.
Response: Thanks for your comment. As we responded to the reviewers earlier, we have indicated the limitation in the last paragraph of discussion. In addition, to validate the results of RNA-sequencing, qRT-PCR and western blot analysis were performed, and more OA samples are collecting now. The key genes and miRNAs identified in this study will be validated in our following research with larger sample size.

2. Please include your response of comment #2 from reviewer 2 in starting paragraph of discussion section.
Response: Thanks for your suggestion. We have included the sentences in starting paragraph of discussion section.

Thank you again for your great help and attention. I am looking forward to hearing from you about the final decision.

Best regards and wishes!

Yours sincerely,
Yuehong Liu