This study analyzed the transcriptome of individuals vaccinated with COVID-19 vaccine and revealed key genes related to immune response and protective effect. The detailed analysis has laid a foundation for understanding the molecular mechanism of immune response induced by inactivated vaccine and subsequent vaccine development research. This manuscript meets the aims and scopes of Peer J, and I suggest that this manuscript might be published after **minor revision.** Please make the following revisions.

Line 107 to Line 109
In the Introduction, I don't think there's enough of an argument here. What are the other transcriptomic results of patients infected by SARS-CoV-2 or other strains like it? What are the innovations of this study? I suggest that these statements be added to these paragraphs in Introduction.

Line 146 to Line 147
    The SARS-CoV-2 neutralization antibody in serum were tested using 2019-nCoV Nab Detection Kit (REF C86109, YHLO, Shenzhen, Guangdong, China).
This kit could not be found on the official website of this company, so I suggest you provide the relevant link.

Line 170 to Line 171 The vaccinated individuals, healthy donors and COVID-19 patients have 29, 3 and 3 biological replicates ...
Whether is the sample number of patients and healthy donors too small? Please authors carefully review according to the basic requirements of Peer J.

Line 176 ... and |Log2 (fold change)| > 1 ...
Line 177 ... |Log2 (fold change)| < -1 ...
In this case, it is recommended to use the subscript for the 2 of Log2. In addition, authors should revise the similar typos carefully.

Line 215 to Line 219, and Figure 1
Why the Healthy 1 group is closer to the Patient 1 group in cluster analysis of Figure 1?   The authors are suggested to explain and revised.

And most importantly, did the study take into account potential differences between differential vaccine providers? If possible, the authors are invited to discuss in combination with a large number of current clinical studies (cited references).

In addition, to adjust the clarity of the figures, it is recommended to use vector format. Then, this will allow readers to better understand the manuscript.