

The introduction provides a generalized background of the topics discussed but could better explain the connection between existing knowledge and the research question. To make the introduction more substantial, the authors may wish to provide further information/clarification as to why the body composition is related MSCs in lines 70 to 74. The authors may wish to provide examples of some of the applications of this research, along with appropriate references. In lines 96-97, the purpose of this research is mentioned as the need to investigate the functional signatures of muscle and adipose tissue and could be backed up by references and current data. The authors could provide a more direct link between the importance of functional signatures and the hypothesis presented. I feel that the authors could provide more context of the plan/technique to be used to address the research questions in lines 82 to 97.

The experimental setting selected for this specific study seems appropriate but lacks some details. The information provided between lines 175 and 195 does not include the concentrations used for the labeling of the cells. Perhaps the authors could provide more information about this. The authors may wish to add Immunofluorescence staining of cell cultures to its methodology. These images could help present a more clear picture to readers of the different fluorescent antibody markers effect in cells of interest. It can also help validate the results of the experiments performed, since all the results are based in one assay (flow cytometry) that has in some cases a not ideal p value. There are several instances where assertions are made that are not substantiated with references, more specifically, in lines 132 to 149, 151 to 160, 162 to 173 and 175 to 195.

The results of the flow cytometry assays in between lines 276 to 289 could be presented and explained in a more appropriate format. The big CD marker names given to each plot makes the data interpretation even more confusing, specially given that there is no table or chart explaining the nature of each marker and it's tissue association. From lines 385 to 389, the author indeed states that the data does not support the hypothesis of a difference between the two RFI lines, which also differs from previous published data. This could be further analyzed. The more in-depth analysis of the data seems to further confuse rather than clarify the results of the experiments, since the p value is inadequate in most results and again the CD marker names in the tables do not make interpreting the data easy for the reader. Something to note is that the flow cytometry plots shown in the research paper are only illustrations of the initial sorting but there are no plots of the sorting between different RFI animal lines and the hygiene conditions. This data is only given in tables that are not very clear and table 3 and 4 need to have the columns centered. The plots have internal red squares and lines to highlight the populations of interest. This leads to some percentages and data being covered by them. Perhaps the authors could use a different design software that allows them to select the populations in a more organized way. Figure 4 legend describes the data presented, but I am wondering if it is necessary to include the p values of the 3 conditions. Does it benefit the data interpretation?

I think a more in-depth discussion of Fig. 3 and tables 3 and 5 would be helpful. I feel these are the key results for this paper, and therefore it merits more discussion. The findings properly described reiterate previously published data by the author, which is important. The limitations of the study are not discussed. I would imagine that having such low p values in most of the cell populations are a limiting factor. The authors conclusion that their findings clearly show that the relative proportions of hematopoietic and of some MSC populations were affected by hygiene of housing conditions in a tissue dependent manner in pigs of both RFI lines references their findings. I will only observe that they further indicate that these populations can be targeted for growth modulation and body composition, but I don't find enough information to support this statement in this article at the moment.