Author’s response to reviews

Title: Reintroducing testosterone in the db/db mouse partially restores normal glucose metabolism and insulin resistance in a leptin-independent manner

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Editor Comments:

Reviewer 1 and the editor would like to better understand why only one author is listed for this work. Multiple references to 'we' are made throughout the manuscript. Are there not other colleagues who participated in this work and require author acknowledgement? Please explain in your response document.

Reviewers’ comment:

Craig Doig (Reviewer 1): I find it difficult to understand how this body of work originated from just one individual. I would suggest the author add everyone who contributed towards the data shown - not least the statistical expert sought as part of my initial response.

Response: Three researchers, including myself, have mainly conducted the research. Subsequently, two of them have left the institute, one is working at another research institute as a dispatched technician, and the other has resigned from research, undertaken an examination at a medical college, and became a medical student (not belonging to the research institute). If the editor and Reviewer 1 permit, we would like to add my former colleague, Keiko Nakamoto, who belongs to a different research institute at present, as a co-author. She has already accepted our
offer. In addition, we would like to add Akihiro Tokushige to co-authors as the statistical expert. He has already accepted our offer, too (Title section).

Reviewers’ comment:

The power calculations still appear to be omitted. Please include.

Response: As suggested by Reviewer 2, we performed power calculations (Methods section, line 29-34, page 13; Discussion section, line 36-44, page 19; Supplementary Figure 2). Subsequently, we became aware that, in many clinical studies, the sample size (n) is determined based on power, and then whether n corresponds to a p-value is examined. However, to my knowledge, power is not typically determined in animal experiments. Although power can be determined easily using statistical software (JMP), n varies from 8 to 11 because an experiment is repeated three times with littermates in animal experiments, unlike in clinical studies. For example, when the average n number of 9.5 is entered into JMP software, it is finally converted to “9 animals.” This number is obtained from both 9.5 and 9.2 animals, resulting in calculation of the final power. Therefore, the appropriateness of this calculation is questionable.

Reviewers’ comment:

The liver figures referred to as supplementary to not appear in this version of the manuscripts supplementary file link. Assuming this is accidental, these need to be included.

Response: In Figure 3, the liver images of the castrated + supplemented group were replaced appropriately, as suggested by the reviewer. Furthermore, low magnification (×40) images were added. The percentage areas of fat values are comparable between the first and second (revised) submissions (Figure 3a and 3b).