Reviewer’s report

Title: Anti-diabetic effect of a preparation of vitamins, minerals and trace elements in diabetic rats: a gender difference

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Reviewer: Mariko MU Uehara

Reviewer’s report:

Major comments
The authors have investigated that anti-diabetic effect of a preparation of vitamins, minerals including trace elements in diabetic rats and the gender difference. Recently, possible roles of several vitamins and minerals on glucose metabolism and diabetes have been investigated by epidemiological studies as the authors have mentioned in the “Discussion” part. Therefore the authors should have tried to clarify the mechanism for this journal. This manuscript has several limitations, since the authors have shown blood glucose, insulin and HbA1c only, although the gender difference seems to be interesting. The authors should evaluate some other parameters such as serum or liver lipids, adiponectin, IL-1, IL-6, TNF-alpha and those parameter’s gene or protein expressions. Furthermore, some related enzymes, which need certain vitamins and minerals as cofactors, should be also examined.

Specific comments
1. It is better to use "AIN-93 (semi-purified diet for rodents)" for this kind of study. At least, the authors should clarify the composition of “Standard rat chow” in Line 118.

2. Regarding statistics, there was no explanation about the interaction of 2 main effects (diabetes and MVT treatment) for 2-way ANOVA. Furthermore, have the authors done multiple range tests as the post hoc test after ANOVA (1-way ANOVA in this case)? Otherwise, it’s impossible to compare between 2 groups as the authors indicated in several Figs. The authors should clarify the certain method of multiple range tests with support of some statisticians in your university.

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.