Reviewer's report

Title: Transglucosidase improves the gut microbiota profile of type 2 diabetes mellitus patients

Version: 3 Date: 19 January 2013

Reviewer: Toshio Watanabe

Reviewer's report:

The authors examined effect of transglucosidase (TGD) on the gut microbiota in patients with type 2 diabetes mellitus (T2DM) patients. They reported that significant decreases in Clostridium cluster IV and Clostridium subcluster XIVa components were observed in the T2DM patients compared with the healthy individuals, whereas the Lactobacillales and Bifidobacterium populations significantly increased in the T2DM patients. They also demonstrated that after 12 month-treatment with TGD increased, the Bacteroides to Firmicutes ratio. There are some new findings in this manuscript, but the data are insufficient to support the author’s conclusions.

1. No data on body weight and blood glucose (or HbA1c) level after TGD treatment were presented in the manuscript. These data were very important and should be reported. Furthermore, the authors should examine the relation between changes in body weight or blood glucose level and the gut microbiota.

2. Based on the data by cluster analyses, the authors described that TGD modulated the gut microbiota profile in patients with T2DM. Were the changes in the microbiota by TGD statistically significant? In other words, did the author evaluate the differences in bacterial diversity between before and after TGD treatment?

3. The authors should add the data of placebo group in Figure 3 which shows the fecal bacteria structure before and after treatment.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I have no competing interests