

The manuscript titled, "Production of exopolysaccharide by strains of *Lactobacillus plantarum* YO175 and OF101 isolated from traditional fermented cereal beverage", proposed to optimize the production conditions of EPS by *Lactobacillus plantarum* strains isolated from *ogi*, a traditional fermented cereal beverage, followed by measurement of their antioxidant activities.

The paper was well organized, written in good English and with a clear introduction. The authors did a good job in results and discussion by clearly presenting results in tables and figures and comparing results with those described in literature. The weaknesses were the statistical analysis and the detailed poorly material and method section.

The reviewer recommends acceptance with major revisions on the pointed out aspects.

Basic Reporting

1. Lines 95-96, to the affirmation "Few works have been reported on EPS-producing LAB strains from cereals-based fermented food", is there any reference?
2. The relevance of antioxidant activity of EPSs should be succinctly added to Introduction section, since this activity was tested in EPSs of present study. It can be mentioned that antioxidant activity of natural polysaccharides, including those of microbial EPSs, has gained great importance in recent decades since they are nontoxic antioxidants.
3. Figure 4, the contour plots which correspond to Response surface three-dimensional plots presents low resolution, which difficult the visualization. Please, improve their resolution.

Experimental Design

1. The screening of optimal conditions for EPS production by isolated strains is not performed in food matrix, but in modified MRS broth. Thus, the optimal conditions

and EPS yield found in MRS may be not reflected in food matrices. Therefore, the use of MRS broth in this study to evaluate the optimization conditions of EPS production by isolated LAB strains should be justified in Material and Methods section.

2. Line 119, the previous step performed to obtain the pellets mentioned in “The resulting pellets obtained were mixed with ultrapure water” should be described. Citations should not be used as a substitute for providing the details of a procedure.
3. Lines 133-134, please report your methods with sufficient detail so readers do not need to refer to other papers to understand how procedures were performed.
4. Lines 138-139, what column and run conditions of HPLC were employed? Were they the same used for molecular mass determination of EPSs? It need be specified.
5. Lines 139-140, please report your methods with sufficient detail so readers do not need to refer to other papers to understand how procedures were performed.
6. Lines 155-158. Describe, even if succinctly, the methods employed so readers do not need to refer to other papers to understand how procedures were performed.

Validity of the findings

1. Lines 145-150, the preliminary screening of cultivation condition and media composition for EPS production was performed to determine the significant factors for this production. However, what was the statistical analysis used to determine which factors are significant for EPS production? It was ANOVA? What significance level was considered for this statistical analysis? This information should be added in Statistical Analysis section.
2. Figure 6. It would be interesting to perform a statistical analysis comparing the antioxidant activities of EPSs studied with the control (ascorbic acid), well as to

compare the antioxidant activities of EPSs between the different strains studied. The statistical analysis employed should be described in Statistical Analysis section. The statistical results should be added to graphs in Figure 6. The statistical analysis is an essential tool to determine if the differences found between the values are significant.

3. Table 2B, highly significant lack of fit (p-value = 0.0005) indicates that a new model is needed. The employed quadratic model for production of exopolysaccharide in *Lactobacillus plantarum* OF101 should not be complex enough to fit the data (important terms from the model such as interactions or quadratic terms should not have been included). From analysis of data, it seems that large residuals result from fitting the model should not have been the cause of lack of fit. I suggest evaluating other model that can suitably fit the data.
4. Figure 3, it is essential that be performed a statistical analysis with the data of Figure 3. It seems that there was no significant difference for EPS yield, for example, between the sucrose and lactose conditions, well as between the conditions of yeast extract and peptone, even so sucrose and yeast extract were reported by authors as optimal conditions for EPS yield when compared to others. The statistical analysis employed should be described in Statistical Analysis section. The statistical results should be added to graphs in Figure 3. The statistical analysis is an essential tool to determine if the differences found between the values are significant.

General comments for the author

1. Line 70, detail the GRAS term (Generally Recognized as Safe). The first mention in a text need be detailed.
2. Line 81, unclear sentence. Change “They form” by “It forms” if is referring to the *ogi*.
3. Line 86, typing error. Isolate the term *Lactococcus* of *lactis* term.

4. Lines 95-96, the statement is not very clear. I suggest to rewriter as follows: “Few works have been reported on EPS production ability by LAB strains isolated from cereals-based fermented food.”
5. Line 151 should be deleted. Lines 152-153 should be moved for the Statistical Analysis section.
6. Line 171, the authors report the figure S1 which is in Supplementary Material as Figure S2.
7. Line 176, the authors report the figure S2 which is in Supplementary Material as Figure S1.
8. In Discussion section, it is relevant compare the EPS yield found with data reported in literature. The results reported here were higher, lower or similar those reported in literature?