Reviewer's report

Title: Edible oyster mushroom suppresses inflammatory response in macrophages and in an animal model of endotoxemia.

Version: 1 Date: 30 December 2010

Reviewer: EVA GUILLAMON

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REVIEWER´S REPORT:

The authors have well described an interesting study about anti-inflammatory effect in vitro and in vivo of oyster mushroom and, they have slightly analyzed the composition of this material. Pleorotus ostreatus is a valuable source of nutrients and bioactive compounds in addition to the growing appeal for humans by their flavors and culinary features. According to experimental and clinical findings, systemic inflammation is implicated in serious diseases. Recently, some studies have demonstrated the beneficial effect of oyster in improvement, prevention or treatment of diseases. But the implicated mechanisms are not yet clear. The publication of manuscript “Edible oyster mushroom suppresses inflammatory response in macrophages and in animal model of endotoxemia” could contribute knowledge of them.

Major Compulsory Revisions:

In general, the methods are not well described. More details would be necessary to replicate this work. In fact, I think the method would need some explanations.

It is not clear if OMC is an extract in water or lyophilized extract.

I think it enough with 1 o 2 hours, why have you incubated overnight?

Was the material stirring during incubation?

How have you prepared the extract of OMC with 100% water and 100% ethanol to analysis by LC? Since there are standards of all identified compounds by LC/MS, why have not you quantified the peaks from LC with corresponding standards?

In addition, more information about analysis in vivo and in vitro must be added.

The discussion must been reviewed and you must include and compare more studies about the anti-inflammatory effects of Pleorotus sp. and other mushrooms especially edible mushrooms.

Minor Essential Revisions:

Background, second paragraph: The reference of Kaplanski G et al. [4] is a review about IL6 and its roles in inflammation but in this have not been cited any study about medicinal or edible mushrooms. In my opinion, this citation is
inappropriate for this paragraph.

Minor issues not for publication

Abstract, results, first paragraph: “Anti-inflammatory activity of OMC (was confirmed by the inhibition…”

Remove “(“

Methods, Cells, first paragraph: 37oC instead of 370C. But you must review the temperature units of this manuscript because there are a lot of errors about degrees centigrade.

Methods, Western blot analysis, first paragraph: You must write “µg” without underline.

Methods, Electrophoretic mobility shift assay: This paragraph must be left and right justified.

Methods, Densitometric analysis: Use capital letter for HP scanjet.

Methods, Analysis of OMC, first paragraph: In the text “nebulizer at a flow rate of 12 L/Min,…” fist letter of minute (M) must be write with small letter.

Methods, Statistical Analysis, first paragraph: “Student t-test” must be change to “Student’s t-test”.

Results, OMC suppresses LPS-dependent induction of cytokines and inflammatory mediators in macrophages, second paragraph, second line: you must change the comma to a point after “PGE2 and NO”.

Results, Effect of OMC on the LPS-dependent induction of transcription activity of AP-1, NF-KB and STAT3, first paragraph: You must use EMSA instead of GEMSA.

Results, OMC possesses immunosuppressive activity, first paragraph: “We found that OMC markedly suppressed Con-A-dependent production of IFN-# and IL-2, respectively, suggesting that OMC…” I think the word “respectively” is used incorrectly in this sentence.

Figure legends, Figure 3: You must use EMSA instead of GEMSA.

Figure legends, Figure 4: You must include the comma after “means±S.D.”.

Figure legends, Figure 5: You must write “µg” without underline.

Figure legends, Figure 8: the peak 1 has been omitted, why?

Table 1: In its legend you must indicate that these data are “(mean±S.D)”.

Discretionary Revisions:

Figure 8: According to the order of Figure 6 and 7, the UV 190-400 nm ought to be under the total ion MS.

I recommend for future analysis in vitro that you carry out (at least) three independent experiments in the evaluation of pro-inflammatory mediators.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.