Reviewer's report

Title: Oral administration of PPC enhances antigen-specific CD8+ T cell responses while reducing IgE levels in sensitized mice.

Version: 2 Date: 26 September 2009

Reviewer: Kouya Yamaki

Reviewer's report:

General
This is an important study which investigates a mechanism of immunoregulatory properties of PPC. The authors describe that the extract suppresses production of IgE and Th2 cytokines via activations of Th1 responses, namely IgG2a and Th1 cytokines productions in various strains of mice. The authors further report an expansion of antigen-specific CD8+/IFN T cells by PPC. Although the work is interesting, several questions should be raised and answered before the manuscript can be accepted for publication.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Description about Figure 2 in results and discussion sections:
The experimental condition of Figure 2 is unclear. In page 11, the authors described that C57Bl/6 is immunized with IFA for Figure 2 experiment. However, in page 15, they mentioned that balb/c was immunized with Alum for Figure 2 experiment. Authors must clarify the strains of mice used (C57l/6 or balb/c) and change the explanations about Figure 2 in discussion section according to modifications of results section.

Results:
Authors should comment (or examine) about the effects of PPC on Th1 and Th2 cytokines productions and other (e.g. CD4+) T cell functions in experiments with C57Bl/6 mice, and IgG2a production in experiments with balb/c mice.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Text:
Standardize the unit (micro, mu or u; liter, l or L; rpm should be changed to x g).
Describe the company data (e.g. “Source” and “Pierce”) in methods section more precisely.
Information about B16-OVA cells should be included.
In page 26, IgGa should be corrected.

Discretionary Revisions (which the author can choose to ignore)

Figures:
To improve appearance;
Please indicate statistical significance (e.g. “*”) in Figures as well as in text.
In figure 2, it is unclear that PPC-treated groups were immunized or not.
In figure 3, include the word "IgG2a" in the title of Y axis.

**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.

**Declaration of competing interests:**

I declare that I have no competing interests.