Reviewer's report

Title: An Ayurvedic herbal food supplement (MAK5) restores decreased immune functions in aged mice

Version: 1 Date: 17 December 2004

Reviewer: Mark Miller

Reviewer's report:

General
General Comments:
This is a paper that set about to evaluate if an ayurvedic mixture - MAK5 could modify immune responses of peritoneal macrophages and spleen cells, taken from mice. The protocol is reasonably well designed and the controls are adequate, although testing in young mice (for an age unrelated effect) was not performed. However, that does not necessarily affect the conclusions of the study. Results indicate that MAK5, can raise NO production of LPS stimulated macrophages and basal glucose utilization in these macrophages in 2 states of culture. Additional, various parameters of immune function measured in splenocytes - Con A proliferation, IL-2, IL-4 and IFN-γ, were also elevated by MAK5. MAK5 failed to produce clear dose-dependent effects, and yet this was not elaborated on in the text, and should be. In addition, there is a lack of perspective as to the magnitude of the changes which for the most are minor. There is not a full restoration of responses to that seen in young animals, and that should be acknowledged and discussed. Rather it requires the reader to look carefully at the data to appreciate the magnitude of these actions.

Specific Comments
1) The abstract could be reworded to note which results were obtained in which cells. Currently it is confusing.
2) Conclusion in the abstract is not correct. Phagocytosis refers to earlier work by this group but was not measured here.
3) Dosing is strange - why 3 days a week? And which days were they?
4) Page 12 last para - These reports are not new, they are >11 years old, which may be new when compared to ayurvedic medicine but not for scientific publications.
5) P14 comment on a lack of dose-response effects.
6) Re-define the conclusion as cancer chemoprevention is too broad and ill-defined.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
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See the Specific Comments
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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
None
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Discretionary Revisions (which the author can choose to ignore)
What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I ahve no competing interests