Reviewer's report

Title: Use of a recombinant S. typhimurium strain expressing C-Raf for protection against C-Raf induced lung adenoma in mice

Version: 1 Date: 2 December 2004

Reviewer: Thomas Rudel

Reviewer's report:

General

In the manuscript of Gentschev et al. entitled 'Use of recombinant S. typhimurium strain expressing C-Raf for protection against C-Raf induced lung adenomas in mice' the construction of a vaccine on the basis of C-Raf expressing attenuated Salmonella was described. The α-hemolysin secretion system was used for the expression and secretion of C-Raf by Salmonella. The authors used C-Raf transgenic mice which generate spontaneous lung tumors to prove the efficiency of the vaccine. Intranasal or oral administration of the vaccine elicited an antibody and T-cell response and reduced tumor growth.

The demonstration that a live cell vaccine based on C-Raf is effective in reducing tumor growth is interesting and challenging. I have a few points which should be addressed before publication:

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

- The authors used a mouse model (BXB23 and BXB11) which is based on the expression of a human C-Raf with N-terminal deletion. The vaccine also expresses a human C-Raf derivative what may explain why the peripheral tolerance could be overcome and an effective immune response was achieved. This point should be discussed in the manuscript and put in the context of current literature. Also, since only the tumor tissue expresses a non-self tumor target an autoimmune reaction is not expected in this system but may certainly be a problem in therapy.

- In figure 5 the lung weight of wild type mice (preferably infected with the vaccine strain) should be included. This would allow to judge not only the relative effect in the BXB-mice but also in relation to normal mice.

- Where the protection assays (lung weight, survival) repeated? How often?

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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)

- Why was BXB23 used to evaluate the effect of the vaccine on the lung adenomas, BXB11 for survival assays? Please explain.

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Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential 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 have no competing interests