Reviewer's report

Title: Overexpression of extracellular superoxide dismutase reduces acute radiation induced lung toxicity

Version: 1 Date: 4 January 2005

Reviewer: S L Marklund

Reviewer's report:

General

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

Page 10 last para, Fig 3 a and b
The authors state that the increase in BAL cell count is mainly due to an increase in macrophages. Comparison of the figures suggest that only about 10% of the increase can be accounted for by macrophages. The major influence by EC-SOD overexpression on BAL is thus decreases in other cell types. Which? Which is the effect of that on the radiation toxicity. This may change the whole interpretation of the paper.

Page 11 2nd para, Fig 5
The authors show an increased activation of TGFb over time, as % of whole TGFb. This cannot be interpreted in the absence of data for whole TGFb levels in the lungs. Which are the absolute levels of active TGFb?

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

Abstract, material and Methods

It is meaningless to state that "immunohistochemistry and ELISA" were performed to determine lung injury. If included the sentence must be more specific as to which factors were analysed, not techniques used.

Abstract, results.

....whereas there was significant reduction in these parameters .. should be ...whereas these parameters were significantly less increased. (These parameters were in fact not reduced, but increased)

P4, last para

"RT-induced"....RT has not been defined anywhere in the paper.

P9, 2nd para
Psmad 3 should be Psmad 2/3 (???)

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:** Needs some language corrections before being published

**Statistical review:** No

**Declaration of competing interests:** None