Reviewer's report

Title: Growth and metastases formation of human malignant mesothelioma cell lines orthotopically implanted into the pleural cavity of immunodeficient mice.

Version: 8 Date: 21 September 2005

Reviewer: Anton Berns

Reviewer's report:

General
In this manuscript the authors show that human mesothelioma cell lines can be transplanted subcutaneously and orthotopically. In this way the want to reproduce distinct features of mesothelioma development. The data to support this are very limited.

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

Imunochemistry showing that the cells upon grafting in mice have retained mesothelioma-specific features (keratin, mesothelin staining) represents an essential feature that is missing in order to allow the conclusion that this represents indeed an orthotopic mesothelioma model. Furthermore, the authors state that the tumors are extensively vascularized and base this on CD31 staining. How specific this staining and on what basis do they conclude that the level of vascularization is high? In fact the macroscopic picture of the tumors would suggest low vascularization (tumors are rather “white”). A more objective measure is needed to permit this conclusion. The speculation in the discussion that the lag phase in tumor growth relates to the requirement for vascularization is not waarranted and requires data (e.g. monitoring growth rate and apoptosis longitudinally upon grafting of the cells).
I was surprised about the sentence “mouse were left to die” in the results section: This does not seem a procedure that is in accordance with the responsible handling of animals. I hope this is a matter of language and that the authors meant to say “mice were sacrificed when moribund” in order to assure that unnecessary suffering is prevented.
Furthermore, to be useful as a drug-response model a better read-out for orthotopic tumor masses is needed. The authors should consider (or at least mention the need) to include a non-invasive imaging methodology to follow tumor development.

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

Language: spelling, grammar and phrasing need to be improved. The text is littered with in (e.g. “growth” is often used as a “verb”; depend by, independent by ? independent from; need a gap of adaptation?). Number of typo’s etc.

Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because too small an advance to publish

Level of interest: An article of limited interest
Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interest