Reviewer's report

**Title**: Identification of low penetrance alleles for lung cancer: The GEnetic Lung CAncer Predisposition Study (GELCAPS)

**Version**: 1  **Date**: 21 January 2008

**Reviewer**: Ulla Vogel

**Reviewer's report:**

This is the description of the establishment of a case-control study of lung cancer.

The study is large and relatively well-designed.

However, there are a few details which could be improved.

1. The control group should also be described in a table, and it should be assessed how they deviate from the general population with regards to smoking and it should be described how they differ from cases (apart from the lung cancer diagnosis).

2. In table 1, % should be added to histology and tumor stage.

3. I don't understand why clinical details and outcome was only collected from a subset of the cases. This study is very well suited for studying interaction between genetic variation and lung cancer treatment in relation to survival. Moreover, you do not have the problem with the different sex-ratio among cases and controls.

4. You have to discuss the implication of the different sex-ratio among cases and controls and to show the age distribution among controls. Does that match the one for cases?

5. Legends for fig 1 and 2 are mixed up. In fig 1, I do not understand the y-axis, is that total numbers of recruited persons? Why does it go up to 7500 if it is only patients as stated in the legend?

6. It is not clear to me whether DNA has been purified from the blood samples or not. State that clearly.

7. You might want to describe the procedure if other researchers would like to have access to the samples, is it possible; does it have to be approved by a board?

8. In the first few lines, it is stated that 'the disease is frequently cited as a malignancy sole attributed to environmental exposure'. Why not mention smoking explicitly?

**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, the manuscript does not need to be seen by a statistician.

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