Reviewer's report

Title: Induction of plasminogen activator inhibitor type-1 (PAI-1) by hypoxia and irradiation in human head and neck carcinoma cell lines

Version: 1 Date: 21 February 2007
Reviewer: Vladimir Zachar

Reviewer's report:

General
The study by D. Shilling and colleagues on the induction of PAI-1 by hypoxia and irradiation in squamous cell carcinoma cells is well conceived, correctly carried out, and presented in a clear and concise manner. It is sufficiently novel to warrant a publication. There remain, however, several points that need to be addressed by the authors before the manuscript can go to press.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1/ The experiment employing desferroxamin to induce hypoxia is not described in the Methods section.
2/ In the Results section, it is stated that the hypoxia has no significant influence on cell viability inferring from the fact that 5% of BHY cells were dead in comparison to 1% at ambient air. At first glance this difference seems substantial. On what basis was the conclusion about non significance between 1% and 5% determined?
3/ In conclusion sections, the authors claim that both short- and long-term hypoxia can induce PAI-1. This statement should be more specific. The duration of hypoxic experiments was 24 hrs. Should that be understood as short-term or long-term exposure? It might be conceivable that if the hypoxic experiments were extended to up to three days, under the given conditions, the levels of PAI-1 could even decrease.
4/ It is not immediately clear what was the purpose of experiments on the stability of PAI-1. Interpretation of these experiments should be included in the Discussion section.
5/ It is not clear where the correlation between samples was statistically evaluated although it is stated that this was one of the statistical methods used.

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

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 whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.