Reviewer’s report

Title: The use of Matrigel has no influence on tumor development or PET imaging in FaDu human head and neck cancer xenografts

Version: 0 Date: 22 Sep 2015

Reviewer: Walter Akers

Reviewer's report:

Review:

The authors present an in-depth analysis of effect of Matrigel basement membrane matrix on the development, growth and metabolism of FaDu cancer xenografts in NMRI nude mice. Tumor size and uptake of 18FDG PET tracer were assessed at multiple times for 3 weeks after subcutaneous implantation with and without Matrigel. In addition, immunohistochemical staining was performed with similar timings to evaluate vascularization, hypoxia, proliferation rate and necrosis during tumor development. The authors conclude that Matrigel has no beneficial effect in this tumor model. Importantly, vascularization is reduced in matrigel implants relative to cells implanted without Matrigel. The results are interesting. The authors are careful to point out that these findings may not hold true for other xenograft models.

The report is well-organized, though will benefit from grammatical proof-reading. Other minor concerns should be addressed before publication.

Methods:

1. Clarify that the same number of cells were implanted for -MG and +MG groups. What was the total volume injected for each group?

2. Clarify that tumor size and mouse weight were measured starting day 5 post-implant.

3. In figure six, Panel B does not look significantly different from Panel A. Perhaps this image can be made more visually distinct as it is result of segmentation of A.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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