Reviewer’s report

Title: Comparison of mammary gland imaging techniques and applications: reflectance confocal microscopy, GFP Imaging, and ultrasound

Version: 2 Date: 23 October 2007

Reviewer: Robert M Hoffman

Reviewer's report:

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

The authors evaluated three techniques that can be applied to live tissue, and in some cases to live mice, for imaging normal and cancerous mammary glands. These techniques include reflectance confocal microscopy, green fluorescent protein imaging and ultrasound imaging. It was found that reflectance confocal imaging offered the highest resolution and was used to optically section mammary ductal structures in the whole mammary gland. GFP enabled serial imaging of whole mammary glands in organ culture to visualize the growth and differentiation process as well as imaging mammary glands in living mice. This is a useful study. However, it appears that GFP can give higher resolution, including imaging single cells in vivo, than what the authors show (Proc. Natl. Acad. Sci. USA 99, 3824-3829, 2002, Cancer Res. 67, 5195-5200, 2007). The authors need to explain this point in light of these publications. Also, it should noted that reference 24 is based on luciferase, not GFP.

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 outstanding merit and interest 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.