Reviewer's report

**Title:** Effect of 5-fluorouracil/PEG-hydrogel on the pharmacokinetic properties and antitumor efficacy

**Version:** 1  **Date:** 16 November 2009

**Reviewer:** Balvinder Vig

**Reviewer's report:**

In this manuscript, authors prepared 5-FU PEG-hydrogel and evaluated its performance in vitro and in vivo and compared to 5-FU, with objective being to devise a sustained release drug delivery system (DDS) for 5-FU, which could reduce its toxic effects. The authors showed slight advantage of the DDS over 5-FU. The manuscript is limited in scope but the DDS could have significant potential. The DDS system is sources from SunBio and it is not clear how extensively has these systems been evaluated. The manuscript also needs significant extensive editing for language. I suggested changes to early portion of the manuscript, but unfortunately could not load it on the website.

Suggested change to the title: Pharmacokinetic properties and antitumor efficacy of the 5-fluorouracil loaded PEG-hydrogel.

**Background - reword**

Suggestions in the background (page 3) should be reworded. These are not suggestions as they have been evaluated previously.

> 5-FU is administered both as bolus and infusion, does this provide any advantage? Since this is underlying hypothesis for delivery system being studied, authors should comment on that.

> Provide reference for ..We have recently developed a PEG-hydrogel that can be injected subcutaneously without any surgical implantation.

> Provide additional details on preparation and characterization of 5-FU hydrogels.

> Please provide rationale for selection of 6-arm PEG-AM and PEG-SG for hydrogel formation. Has this been previously studied, if so then provide reference.

> Specify treatment duration

> Did authors measure tumor drug levels at the end of the study in treated animals.

> Did authors measure antitumor activity of 5-FU and 5-FU hydrogel in the cytotoxicity assay.

> Discussion: Authors may want to comment on issues with current formulation, if any, and future enhancements.
Figure 3: Specidy what do the open and closed circles signify
Figure 4: Be more descriptive for X-axis
Figure 5: Reduce size
Figure 7: Be more descriptive for X-axis. Specify what O.D. means.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

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'