Reviewer's report

Title: Mechanistic studies of Gemcitabine-loaded nanoplatforms in pancreatic cancer

Version: 1 Date: 24 July 2012

Reviewer: Tarun Mandal

Reviewer's report:

1. Is the question posed by the authors well defined?

The questions posed by the authors is well defined.

2. Are the methods appropriate and well described?

Some of the methods described are not well described. The authors described the method of preparation of the nanoparticles but amount of drug in each formulation needs to be described. The drug loading has been reported but it is essential to calculate and report the Efficiency of Encapsulation in details. It is a water soluble drug, so it is expected to have lower efficiency of encapsulation. It is also important to measure and report the surface charge of the particles. Both size and charge of the particle dictate the fate of the particle in cellular delivery.

The method of measuring the total content of the nanoparticles needs to be described in details. Figures 3A and 3B does not necessarily showed a significant burst release. The drug release also does not show any significant release after about 20 hours.

How much drug/nanoparticles were used for the release studies? Apparently, the PLGA batch has significantly less drug, i.e., 5 micro gram/mg whereas, the liposome batch has about 50 microgram/mg. However, the PLGA batch showed much more total drug than the liposome batch. Please explain.

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Please change the title from Physico-chemical release kinetics.... to In vitro drug release.

Encapsulating the drug in nanoparticle does not change the half life of the drug but it only prolong the drug release. Please change the statement throughout the manuscript.

3. Are the data sound?

Please see the comment above.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Yes

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   Please see the comment above.

6. Are limitations of the work clearly stated?
   Yes

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   Yes

8. Do the title and abstract accurately convey what has been found?
   Yes

9. Is the writing acceptable?
   Yes

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I do not have any conflict of interest.

Tarun K Mandal