Reviewer’s report

**Title:** Development of a gene therapy strategy to target hepatocellular carcinoma based inhibition of protein phosphatase 2A using the alpha-fetoprotein promoter enhancer and pgk promoter: an in vitro and in vivo study.

**Version:** 1 Date: 26 May 2012

**Reviewer:** Ren-Shyan S Liu

**Reviewer's report:**

Comments to authors:

1. The authors should provide the results of the expression of luciferase from the following constructs: pGL3-basic-AFpg-Fl, pGL3-basic-pgK-Fl, and pGL3-SV40-Fl in the hepatoma cells, such as HepG2, to demonstrate AFP+ specific transcriptional targeting.

2. Fig. 2B demonstrates that “pAFpg-Fl” construct (in pGL3 basic backbone) preferentially expressed Fl reporter gene in the AFP+ cells. What is the basal transcriptional activity of the housekeeping gene-pgk? How about the solely pgk promoter-driven Fl activity in the three cell lines?

3. In the experiment of adenovirus treatment of tumor xenograft, the authors measured the tumor size to monitor the therapeutic effect of the constructs: Ad-CMV-DN-PP2Ac#, Ad-AFpg-DN-PP2Ac# and Ad-AFpg-luciferase. For better demonstration of the effect of gene therapy, bioluminescence imaging of the tumor xenograft model is mandatory.

4. Page 8, line 5, the mutated site “CCG” should be underlined.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.