Reviewer's report

Title: Therapeutic effects of lentivirus-mediated shRNA targeting of cyclin D1 in human gastric cancer

Version: 1 Date: 4 November 2013

Reviewer: Wantao Chen

Reviewer's report:

Many studies have reported that cyclin D1 are closely related to some kinds of cancers, and effected tumor growth, metastasis and drug resistance. The authors try to develop a new therapeutic strategy for treating gastric cancer.

So the therapeutic effect of lentivirus-mediated shRNA targeting of cyclin D1 (ShCCND1) was analyzed both in vitro and in vivo. The data showed that lentivirus-mediated ShCCND1 effectively inhibited growth of NCI-N87 cells derived cancer both in vitro and in vivo. The efficiency of shRNA knockdown and variation in the degree of inhibition is mediated by different shRNA sequences and cancer cell lines. The results suggest the possibility of developing new gastric cancer therapies using.

The data from the study revealed some evidence to use lentivirus- ShCCND1 for treating gastric cancer.

But the manuscript has some shortage needed to be explained and discuss.

1. In the study, only one gastric cancer cell line was used to test in vitro and in vivo, the conclusion needs to be confirmed by the other gastric cancer cell lines.

2. To validate the efficiency of shRNA knockdown on cyclin D1 levels, the results showed ShCCND1-1 and ShCCND1-2 did not decrease cyclin D1 levels. However, ShCCND1-3 resulted in lightly decreased cyclin D1 level compared to NCI-N87, ShCCND1-1 and ShCCND1-2. The cyclin D1 protein did not decrease significantly in Figure, too. The biological effects were also significant in suppressing tumor growth, apoptosis in vitro and in vivo. So I suggest the authors to try more effective ShCCND1.

3. In the results, “the cell apoptotic rate was 61.7% in ShScramble and 88.4% in ShCCND1”. The apoptotic rate was 61.7% in ShScramble group, meaning that the apoptosis resulted from the other factor, not from ShCCND1. And the above apoptotic rates did not matched the values in Figure 3B.

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:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.