Reviewer's report

Title: Engineered Measles Virus Edmonston Strain Used as a Novel Oncolytic Viral System Against Human Hepatoblastoma

Version: 3 Date: 1 July 2012

Reviewer: Jian-Dong Huang

Reviewer's report:

Hepatoblastoma is a common liver tumor in children. The authors tested attenuated measles virus against HB cell lines both in vitro and in vivo, and found virus strain MV-CEA could induce apoptosis, delay tumor growth, and prolong survival rate. The manuscript could be improved by addressing the following questions.

1. The manuscript should be revised for its English and structure. The figure number is inconsistent with the number labeled in main text! It showed total 13 figures in figure section, but only 5 in text. In the discussion part, the authors focused too much on other people's work, but little discussion with their own work.

2. There are many inconsistent data in this manuscript. In Result part (page 8), the autors stated 'the positive rate of CD46 receptor was 90.82% in Hep2G and 80.03% in HUM6'. However, in Figure legend (page 22) they said 'high levels of CD46 receptor was observed in human HB cell lines with the rate of 86.82% in Hep2G and 92.03% in HUM6 cells'! In page 9, the authors observed MV-CEA induced CPE for 120 hours, but they only showed 96h data in Figure 5,6,7,8,9.

3. Statistical analysis is missing in Figure 6, 7, 8, 9.

4. Authors test the MOIs of 1, 0.1 and 0.01. How about the larger MOIs (10 or more)? Will it show too much damage in normal cells and increase safety issue?

5. The authors proved MV-CEA cannot infect the normal liver cells L-02. How about other kinds of normal cells? Such as kidney cells? The authors should test the presence of the virus systematically in all major organs. It will be even better if the the authors can measure the virus load in different tissues including tumor over a time course.

6. In Figure 11, the serum CEA level on 20d has dropped dramatically compared with 15d, but the tumor size between day 15 and 20 seems not change too much. But authors didn't discuss it at all.

7. In discussion part (page 14), the authors discussed MV-Edm therapy is the immune response, which can induce cytotoxic T-lymphocyte response. But they used nude mice and SCID mice to apply this experiment. How did virus work in immunocompromised mice?

8. Images of the tumor in control and treatment groups should be shown.
Level of interest: An article of limited interest

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.