Reviewer's report

Title: Validation of a VEGFR2 antagonist peptoid in vivo

Version: 3 Date: 2 July 2010

Reviewer: Nikki Cheng

Reviewer's report:

As described below, the original primary concerns with the manuscript by Lynn et al. involved clarifying experimental details and the mechanism of action of GU81. Regarding the submission of the revised manuscript, the reviewer finds that the concerns have been adequately addressed through inclusion of additional data and clarification of text.

Minor Essential Revisions

1. The rationale for obtaining a derivative of GU40C is unclear. Why was GU81 designed?

2. Genetic background can significantly affect latency of tumor formation and aggressiveness of tumor progression. The PyVmT model is available in different backgrounds. Please specify which genetic background is used.

3. The mechanism of action for peptoids, especially for GU40C or GU81 are unclear for those who are unfamiliar with the subject. More background in the intro is needed for GU40C and GU81. For example, does GU81 specifically bind to VEGFR2 or does it affect VEGFR1 also? What previous studies were done on GU40C to describe the mechanism of action?

4. It is interesting that GU81 does not significantly affect angiogenesis in vivo but does affect VEGFR phosphorylation in vitro. Does GU81 inhibit VEGF induced sprouting or proliferation in vitro?

5. Given that the in vitro dosages in Figure 1 differ from the in vivo dosages given and the in vitro results differ from in vivo results, does the in vivo dosage correlate with the in vitro dosage?

6. For clarity, a separate description in the methods section of how the statistics were performed is advised.

7. How was microvessel density measured?

Discretionary decisions

1. While it is mentioned that no differences in vivo angiogenesis were observed between GU81 treatment and controls, showing the results anyway may help the reader to further understand the effects of GU81 in vivo.

2. Given that increased VEGF expression is increased in tumors with GU81 treatment, could GU81 enhance VEGF expression in cultured tumor cells?
Level of interest: An article of importance in its field

Quality of written English: Acceptable

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.