Reviewer's report

Title: In vitro metabolism studies of erythraline, the major spiroalkaloid from Erythrina verna

Version: 2  Date: 6 November 2013

Reviewer: Kazuhiro Takemoto

Reviewer's report:

General Comment:
The authors investigated in vitro metabolism of erythraline, and they found that erythraline was not metabolized by intestinal microbiota, but it was possible to identify its oxidative metabolite from biomimetic reactions. This result casts doubt on the medicinal effect of this alkaloid. This finding is interesting and useful in phytomedicinal research. The manuscript is well constructed in general. The reviewer believes that this manuscript is suitable for publication in BMC Complementary and Alternative Medicine. However, the reviewer has the following concerns. The authors should improve the manuscript according to these comments.

Minor Essential Revisions:

This analysis assumes the same composition of microbiota between pig cecum samples. Is this assumption really satisfied? The reviewer is afraid that this result is a very special case because of few samples (n=2). If the authors cannot show the validity of this assumption, they should emphasize this limitation.

Moreover, this analysis assumes the same composition of microbiota between pigs and humans. However, the authors did not mention whether this assumption is really satisfied or not. At least, the authors should discuss this point.

The evaluation of cytotoxic activity against tumor cells is a little too sudden. The authors should provide a deeper explanation why cytotoxic activity against tumor cells should be evaluated in this study. The reviewer guesses that alkaloids generally show cytotoxic activity against tumor cells in addition to anxiolytic and sedative effects; however, he could not easily understand such a research background.

(The last paragraph on p.8) The authors mentioned "As previously discussed in our recent studies" But, which reference?

Level of interest: An article of limited interest

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.