Reviewer's report

Title: Induction of chromosome instability and stomach cancer by altering the expression pattern of mitotic checkpoint genes in mice exposed to betel-nut

Version: 1 Date: 29 April 2013

Reviewer: Jiiang-Huei JH Jeng

Reviewer's report:

This is an interesting paper dealing with the carcinogenicity of areca nut toward experimental animals (esp. bone marrow, esophagus and stomach). The authors also evaluated the sequential changes of related genes and proteins during the areca nut-induced carcinogenic processes. Generally the results showed new findings, but some revisions are necessary to improve the data presentation.

1. Based on IARC (2004), areca nut is better to be used through this manuscript instead of betel nut. Betel quid is OK.
2. Page 3, line 7: “..tissues when arecoline (ARC) or areca nut extract …”. The abbreviations can be spelled out when they first appear.
3. Page 4, how to gound RBN?
4. The authors can give a flow chart for their animal study, especially the grouping and number of animals used for each test.
5. Page 6, line 2: Equal amount of protein (40 mg or 40 ug?)
6. Page 17, Table 1: the results of RBN+lime (with advanced tumor) were not described in “Results” section (Page 8, 4th paragraph)
7. Page 18: number of animals or experiments can be given (n value =?), esp., Figure 2A, Figure 3 and Figure 4 (bottom).
8. Figure 1: Anisokaryosis is not described in text and figure legend.
9. If possible, the authors may use one figure to show the relationship of their analyzed molecules (e.g., areca nut, p53, Bax, securin, p65, PARP, aurora A, Aurora B, Mad2, Bub1 etc.) in the “conclusion” section.
10. Whether checkpoint kinases or any upstream signaling molecules play a role in regulation of the above molecules can be discussed.

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