Reviewer's report

**Title:** Spermine oxidase (SMO) activity in breast tumor tissues and biochemical analysis of the anticancer spermine analogues BENSpm and CPENSpm

**Version:** 2  **Date:** 6 April 2010

**Reviewer:** Masao Kawakita

**Reviewer's report:**

**Major Compulsory Revisions**

1. While the authors emphasize the fact that SMO activity is lower than normal in BC tissues as their novel finding, they found that SSAT activity, age, and increased aggressiveness of tumor, but not SMO level, actually, were correlated with ER/PR status and Ki67 expression levels as stated on page 12, line 13 - page 13, line 3. It is curious that their discussion in this article nevertheless centers entirely round SMO. Correlation between SSAT activity and ER/PR-negative and “K40” classes of BC seems to be neglected. The Discussion and Conclusion section should be reorganized so that the significance of the correlation between those BC characteristics and SSAT as well as the absence of correlation between SMO and those characteristics is more rationally interpreted.

2. On page 2, line 19, the authors claim that underexpression of SMO is a negative prognostic marker in BC, but any relationship between SMO expression and BC prognosis is described in this article. In fact, the statement on page 13, lines 2 - 3, “we could not observe any correlation of the other enzymes SMO, APAO an ODC examined with the BC markers used” is contradictory to what is described on p.2, line 19 and in Conclusions section on p.14.

3. I recommend that the final version of manuscript for publication should describe how qualitative variants such as TNM score, ER, PR, Ki67 and c-erb level, and tumor grade were treated during the statistical analyses so that the analysis may be traced by any interested reader.

**Minor Essential Revision**

1. Page 11, lines 3-8: The difference in Ki values for inhibition of SMO by BENSpm and CPENSpm is 4 to 5-fold instead of three orders of magnitude, implying that the interpretation based on this molecular model is not adequate enough in this case.

**Discretionary Revision**

1. Table 2 and Figure 2 are based on the same data, only information as to N being missing from the latter, and therefore are redundant. Figure 2 may be dispensable.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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.