Reviewer’s report

Title: Selective apoptotic cell death effects of oral cancer cells treated with destruxin B

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Reviewer: Chun-Li Su

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Major Compulsory Revisions

In this manuscript, the authors attempted to investigate the apoptotic effect of destruxin B (DB) using various human oral cancer cell lines. Although the data indicate that DB inhibited cancer cell growth (Fig. 1) and changed morphology (Fig. 2 and 3), the anticancer mechanisms of DB is not clear (Fig. 4-6). In addition, the anticancer effects of DB have been demonstrated in many other cancers (hepatocellular carcinoma, nonsmall cell lung cancer, and colorectal cancer). The novelty of the manuscript needs to be improved.

Specific comments:

1. Table 1: The authors indicate that the effect in GNM cells is slightly superior than that in TACCa cells. (page 10, line 14) However, the statistical analysis was not performed for the data. It is not clear if they are significantly different.

2. Fig. 2 and 3: The results and differences among groups need to be described.

3. Fig. 4: The anti-caspase 3 antibody (Clone H-277, Santa Cruz) used in the present study (page 7, line 13) only detect pro-caspase 3 (inactive form), not the cleavage form (active form). Therefore, the increase in immunofluorescence intensity can not demonstrate the involvement of caspase 3 in response to DB. (page 13, line 18)

4. Fig. 5: There are 4 quadrants in the figures. Which quadrant of cells was presented here (the percentages in the figure)? The authors need to explain the meaning of cells in different quadrants. In addition, statistical analysis should be carried out.

5. Fig. 6: The authors indicate that total protein was subjected to western blot analysis. (page 8, lines 13-14) However, only mitochondrial Bax and Bcl-2 participate in the intrinsic apoptotic signaling. Therefore, changes in total Bax and/or Bel-2 can not demonstrate the involvement of Bax and/or Bcl-2 in DB-induced anticancer mechanism. (page 2, line 14; page 13, line 18; page 15, line 4)

6. Fig. 6: The active caspase-3 is a heterodimer composed of two p17 and two p11 subunits, showing both 17 and 11 kDa bands on western blot. It is hard to convince readers that caspase 3 is activated by showing only one band in the pictures.
7. The PARP data is missing. (page 12, line 9)

**Level of interest:** An article whose findings are important to those with closely related research interests

**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.

**Declaration of competing interests:**

I declare that I have no competing interests.