Reviewer's report

Title: Dermcidin exerts its oncogenic effects in breast cancer via modulating ERBB signaling

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Reviewer: Roxana Schillaci

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MAJor revision

In this work, Markovic et al. explored DCD-mediated tumorigenesis and in vitro clonogenicity and proliferation in breast cancer cells. They also obtained a correlation of DCD expression and ErbBs signaling. It is an interesting approach to further study the role of DCD in breast cancer. However, this work does not elucidate the molecular mechanism exert by DCD that drives EGFR phosphorylation and activation of p38 MAPK and Akt.

Major points:

1. In order to find out the relevance of DCD on therapy resistance, does MDA-MB-361 stimulation with DCD addition can be reverse by trastuzumab or cetuximab?
2. As SKBR-3 and BT-4T4 cells are the most commonly used ErbB-2 overexpressing cell lines, it will be useful to show the results of addition of DCD to at least one of these cell lines.
3. Is not clear the affirmation that, using the 55 human breast cancer cell lines obtained from Cancer Cell Line Encyclopedia, the authors found a correlation between DCD and HER2 amplification. The results obtained by RT-PCR in this work seem to show no correlation with HER2 overexpression/amplification with the cell lines tested. These differences should be discussed.
4. The fact that the authors analyzed 600 samples of breast cancer for DCD IHC and then showed a cohort of only 26 samples is disappointing. How these 26 samples were chosen? What happened with the rest of the cohort?
5. Iffigs 5 and 6 the loading control of total kinase (p38 and Akt) should be shown.
6. What is the level of ErbB-2 phosphorylation in MDA-MB-361 control and shRNA-knocked DCD?
7. At least some speculation about the possible mechanism of action of DCD should be described in the conclusion.

Minor points:

Materials and Methods section

In “PCR, microarray, and network analyses”, first sentence, it should say “as Porter described” or “…as we described”
Trastuzumab is listed but not used
“BALB/c” should be written in capital letters.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.