Reviewer’s report

Title: The anticancer activity of lytic peptides is inhibited by heparan sulfate on the surface of the tumor cells

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Reviewer: Leticia V Costa-Lotufo

Reviewer’s report:

The manuscript described the inhibitory effects of heparan sulfate present in tumor cells membrane on anticancer activity of lytic peptides, lactoferricin B and KW5. The experimental is well designed and the findings are interesting, although the discussion is almost limited to the description of the results instead of a critical analysis of present findings in comparison to the literature. They barely compared the activities of both compounds analyzed. Is there any difference that should be highlighted?

The statistical methods used in the comparison of experimental groups were not described in the experimental section. However in figures 2, 3, 4 and 6, they mentioned that the used paired t-test. I do not think that the paired t test is appropriated since sometimes (figure 3 and 4), they are comparing two different treatments or even two different cell lines!!! Were data presented in table 1 and 2 not compared? They did not present the variability of IC50 data in table 2, were the IC50 values significantly different? I could not understand how data presented in figure 6 could be compared by paired t-test!!!

On page 15, do they authors have any hypothesis to explain the differences of present findings from those described in references 41 and 42.

On page 16, Do the authors really think that their data (table 2) support the affirmation that “The inhibitory effect of HS was further … at the cell surface were much more sensitive to Lfcin B than lymphoma cells expressing cell surface HS”?

Sometimes, the numbers are presented with comas instead of dots.

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