Reviewer’s report

Title: Regression of solid breast tumours in mice by Newcastle disease virus is associated with production of apoptosis related-cytokines

Version: 0 Date: 22 Jun 2018

Reviewer: Evgenii Zavjalov

Reviewer's report:

The presented manuscript "Regression of the solid breast tumors in mice" is certainly of great interest and is of great practical importance for understanding the mechanisms of the oncolytic viruses as one of the tools for the therapy of oncological diseases. A lot of work has been done with the large materials and high methodological level, but there are a number of shortcomings listed below:

- line 3 page 4: Table 1. VVNDV - unknown abbreviation?

- line 4 page 4: Table 1 have the label with "Mean ± SD" included also in section 3.16. Statistical Analysis. However that of is not given in the signatures to Tables 3-9. It is necessary to indicate uniformly Mean ± S.D. or Mean ± SD without dots.

- line 7 page 4: Table 1. NG - the abbreviation that are absence in the table

- line 37 page 5: unknown group NNDV?

- line 38 page 5: what is the purpose of n = 6? To which group does this apply? Similar to Table 1, it is indicated that the data are expressed as Mean ± SD, whereas this information is given in Section 3.16.

- line 45 page 5: it remains unclear how the blood was taken from animals and how much blood was taken from animals for so many studies.

- line 35 page 12: need specify the source of the virus and the storage condition.

- line 56 page 13: incomprehensible scheme for obtaining 8HA, 16NA, 32H and 64HA. Why 8NA obtained from 100 μl of 108 NDV + 900 μl of PBS? Why is the doubling of the titer was obtained by diluting 1/9, 1/8, 1/7?

- line 37 page 14: what is the "…hygienic conditions and were provided with standard animal feed". Need to show a specific data on temperature and humidity in the animals housing room, photoperiod, type or name of feed, method for study of animal health.

- line 3 page 15: how was determined the mass of the tumor on the first day of the study?
- line 4 page 16: it is more correct to write that "some viruses have oncolytic properties ...

- line 32 page 16: it is not true that the increase in body weight is caused by the growth of the tumor. Such an assumption can be applied only to animals from the group CNDV + T 32 and 64 (Table 1) in which the body weight + tumor mass at the end of the experiment is comparable to the total mass of animals at the beginning of the experiment.

- line 50 page 16: 2 times the word "that ... that" is written

- line 50 page 16: the authors write that the IL-10 decreases in CNDV + T mice, but from the data in Table 6 it can be seen that the decrease is observed in the 4th week for all groups except NC. A similar picture observed for all cytokines, but the conclusion about the effect of NDV + T made only for this cytokine.

- line 54 page 16: probably instead of the word "biliary stricture" you should write "biliary structure".

From the text remains unclear scheme of virus treatment: day of treatments, virus was injected together with tumor cells or separately, the point of injection, how many times. From the Methods it remains unclear the model of xenotransplantation: orthtopic or not? Where the tumor cells were inserted? Also not entirely clear after reading of the Discussion why was presented the weekly measurements of cytokines. Besides this, since the volume of blood taken for analysis is unknown it remains unclear how the weekly blood sampling affected on the results. Also in Discussion will be need to show a more detailed analysis of the results obtained. When considering the data presented in the tables, low values of SD, which are more similar to SE, attract the attention. Despite the fact that this direction of research is actively developing in recent years, no publications younger 2015 in the References was present. The References are include mainly the publications 10 years old and more.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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