Reviewer's report

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

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Reviewer: John D. Haley

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BCAN-D-17-02230
Regression of solid breast tumours in mice by Newcastle disease virus is associated with production of apoptosis related-cytokines. Raihan et al.

The investigators describe the activity of Newcastle disease virus (NDV) strain AF2240 in the treatment of 4T1 breast cancer in allogeneic tumor models. They correlate activity with cytokine levels. The subject is of interest, both as a single agent and more likely in combination with other immune directed therapies, eg. checkpoint inhibitors. In general the manuscript is well written and clear. This is an interesting study, likely of interest to a wider audience. Measuring T-cell infiltration and state, as well as macrophage infiltration would be likely next steps and could be discussed as future directions in the Discussion section.

Specific Points to be addressed:
The Results section precedes the Materials and Methods section which adds to the confusion.

The extensive use of Tables is off-putting. Much of this data should be plotted and the Tables moved to Supplementary.

Page 3: The minor impact of NDV on human health is noted, but no description of toxicity in the murine host is mentioned. What immune responses and toxicopathology are observed in mouse? This may contribute to the activity observed.

Page 14: Table is not clear. The 100ul addition of differing virus titers is made to differing amounts of PBS in a way not described. Are the inoculation volumes constant between virus titers?

The cytokine Discussion section, reads as a review with little integration of the data and little interpretation of its significance to the activity of NDV in the cancer setting. This should be largely rewritten to focus on the biology at hand.

Minor:
Page 13: 3.5: Tris-HCl
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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