Reviewer's report

Title: Isolation of vaccinia JX594 from pustules following therapy for hepatocellular carcinoma

Version: 2
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Reviewer: Matthias Kloor

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In the present manuscript, Kung et al. report about vaccinia particles isolated from pustules developing in hepatocellular carcinoma patients receiving therapy with the oncolytic virus JX594.

Therapy with the oncolytic poxvirus JX594 has been reported as a safe and promising therapy approach in various tumor types in recent years. One of the most common side effects in patients treated with high doses appears to be the formation of pustules in the skin and other locations of the body. In the present study, the authors analyzed whether these pustules contained JX594 particles. Using PCR, they provided evidence for the presence of JX594 DNA in the pustules. To confirm the presence of viable particles, they exposed lung fibroblast cells and report a cytopathic effect.

The manuscript is well written, and most of the data are clearly presented. However, certain sections need to be revised to support the authors’ conclusions.

Major compulsory revisions:
1. Sequencing data should be provided to support the specificity of the amplified PCR products.
2. The picture in 1C is hard to interpret. The authors need to provide more details on the exact conditions of the culture experiment. Fibroblast cells cultured in the absence of the virus should be shown as a control. Evidence of a cytopathic effect should be visualized and highlighted, e.g. by arrows.

Discretionary revisions:
1. Are there data about immunological responses? It would be interesting to see whether the patient developed T cell-based or humoral immune responses against viral epitopes.

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

Quality of written English: Acceptable

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.