

Review of: "Nucleocytoviricota Viral Factories Are Transient Organelles Made by Phase Separation"

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Potential competing interests: No potential competing interests to declare.

The manuscript is sound and of high interest to scientists working in the field of structural virus research, as well as to the community in the field of functional phase separation.

The review is well prepared; however, I forward a few minor suggestions.

The article starts with an Abstract, and I suggest indicating the following sections, maybe Introduction, as it looks like it is going straight into Material and Methods, which are at the end, page onwards very detailed, after Discussion.

As the article is full and overloaded with abbreviations, which may be necessary to avoid long and complicated repetitions, I suggest having a table of all abbreviations at the beginning, with the Abstract. Also, a type of graphical abstract figure would help to understand the experimental workflow and mission of the manuscript.

Also, after the Abstract, 1 or 2 lines of Keywords indicating the goals of the investigations would be helpful.

On pages 5 and 6, and onwards, concentrations are mentioned, high and low; here, real numbers and units should be introduced. One other example, on page 6, ... a significant reduction in viral particle formation.... What is significant?.... Confirmed by a low viral RNA..., what is lower?

For Material and Methods, it would be informative to include for selected proteins, as mentioned on page 25, Cartoon Models, optional via AlphaFold, and indicate the IDRs, and for the proteins summarized on pages 32 and 33, showing in 3D the charge distribution.