Reviewer's report

Title: Effects of Viscum album lipophilic extract and oleanolic acid on monocyte migration and macrophage polarization in vitro

Version: 2
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Reviewer: Jaroslaw Czyz

Reviewer's report:

In their paper, the authors estimated the impact of liophilic extracts from Viscum album containing pentacyclic triterpenes and purified oleanolic acid on the motile activity of monocytes and their polarization to M1 and M2 phenotypes in the in vitro conditions. Additionally, they estimated the effect of the media conditioned by cancer cells on the polarization pattern of monocytes. Overall, the idea and approach are original and sound, the story is very interesting and undoubtedly worth of publishing, however its construction is confusing for me.

Major compulsory revisions:

1. In general, in its present form the manuscript lacks the axis. The authors should decide whether they want to concentrate on the conditioned media effects (in this case, the data on VALE and OA should be presented as additional result and not described as a scaffold of the article). Alternatively, they could concentrate on the extracts and use conditioned media as an additional experimental design. Consequently, the whole manuscript should be rewritten to follow one line of reasoning.

2. As far as I can assess, several fragments require revising due to clumsy expressions and/or incomprehensible construction (see for example lines: 54-57; 76, 96-99; 164; 175-176; 255-256, etc.). Native speaker with experience in writing scientific papers should be consulted.

3. Additional data on the effects of VALE and OE on the transmigration of polarized monocytes would considerably enhance the message of the story. This would also help the authors to combine the data on conditioned media with the triterpene story. Or, if the authors think these experiments are pointless, they should clearly explain, why they think so?

4. The structure of the discussion part leaves much to be desired, the fragments concerning triterpenes are scattered among overextended considerations on monocyte polarization. This should be modified and made more concise.

Minor essential revisions:

1. With regard to the data on “monocyte migration”, the authors should clearly state that they analyzed the transmigration/chemotaxis of these cells. By the way, are 8micro pores not too big for the analyses of transmigration of relatively small cells, like monocytes?

2. Biological significance of the tested concentrations should be at least shortly
discussed.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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