Reviewer's report

Title: Effects of cytarabine on activation of human T cells - cytarabine has concentration-dependent effects that are modulated both by valproic acid and all-trans retinoic acid

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Reviewer: Yubin Ge

Reviewer's report:

Ersvaer et al. report on the effects of various clinically relevant concentrations of cytarabine on the activation of human T cells and on how these effects are modulated by ATRA and valproic acid treatment. Following are some suggestions that may improve the paper.

Major Compulsory Revisions

1. Lines 187-188: “ATRA and valproic acid did not cause any statistically significant alteration of T cell viability and proliferation.” However, Figure 2B shows a statistically significant decrease in viability after treatment with 1000 µM valproic acid. Please edit the text to more accurately describe the data.

2. For Figure 2B, should the control sample be at 100%? Please explain how the parent gate was set.

3. Lines 213-215: The authors state that “Proliferation and viability was not altered for cultures containing ATRA 1 µM, valproic acid (500 and 1000 µM) and cytarabine (0.01, 0.35, 1.0 and 44 µM”. However, in Figure 2 the data indicates that some of the triple combinations resulted in significantly decreased proliferation. The authors should consider revising their statement.

4. The discussion is predominantly a repetition of the results. A substantial revision of the discussion section is required.

Minor Essential Revisions

- Some typographical errors need to be fixed:

1. Line 99: a parenthesis is missing or there is a parenthesis that should not be there.

2. Line 105: change “dissolved” to “suspended”.

3. Line 176: change “drug-containg” to “drug-containing”.

4. Line 184: Did you mean CD28?

5. Line 185: Should “100 µM “be “1000 µM”?


7. Line 327: a parenthesis is missing or there is a parenthesis that should not be there.
Discretionary Revisions

1. The paper could benefit from professional editing.

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

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.