

Reviewer Report

Title: High-Resolution Computational Modeling of Immune Responses in the Gut

Version: Revision 2 **Date:** 2/18/2019

Reviewer name: Elsje Pienaar

Reviewer Comments to Author:

I have looked through the authors' responses and remain concerned about the grid dimensions. Redefining the grid in um instead of nm still leaves the entire simulation environment at 30um by 10um which is about on the order of a single cell (e.g. macrophage diameter ~20um <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470168/>). I remain concerned that defining the grid at such a small scale creates a biologically unrealistic disconnect between the diffusing cytokines (on a very small scale) and the cells that they influence (on a much larger and abstract scale). I tried to understand the dimensions of the diffusion constants for the cytokines but the parameter table S1 contains no units to be able to compare diffusion scales to cell movement scales.

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