

Dear Dr. Denise Kirschner
Co-Editor-in-Chief
Journal of Theoretical Biology,

We are pleased to submit the revised manuscript, “A spatial model of the efficiency of T cell search in the influenza-infected lung” for JTB’s consideration. This is a resubmission of manuscript number JTB-D-15-00501, received by us on August 12, 2015 with an invitation for resubmission within 60 days.

The reviewer comments were extremely helpful, and we have addressed each of their suggestions in the attached Response to Reviewers. To summarize the more important changes, we performed the recommended PRCC sensitivity analysis for one viral strain. Because it confirmed the results of our original sensitivity analysis, we conducted this computationally intensive analysis for only this strain. Beyond the PRCC runs, we doubled the number of model runs using our standard parameters. This resulted in a very small decrease in the variance of the results and did not affect the mean. This gives us additional confidence in the validity of the reported results. Next, we reorganized the Methods and Model section to make the rationale for our parameter choices more clear. We note that the PRCC sensitivity analysis confirms that many of these parameters do not have a strong effect on the model output. Finally, we corrected the typographical errors pointed out by the referees.

We feel that the paper is much improved with these changes, and we appreciate your patience during the revision process.

Sincerely,

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