

Legends for Supplemental Movies

Movie S1: Antigen-specific and antigen unspecific CD4⁺ effector T cells move at similar mean velocities in pulmonary granulomas. LysM-EGFP (green in this movie) mice were infected intranasally with BCG 8 weeks prior to receiving day 6 *in vitro*-activated P25s (blue) and OTIIs (red). CD4⁺ T cells were labeled with different intracellular dyes prior to transfer. Eighteen hours after T cell transfer, lung tissues were imaged via the explant technique. Laser wavelength set to 840nm, z steps of 3 μ m acquired every 30 seconds. Movie represents maximum projection of the collected volume data over time, and plays at 10 frames per second. Scale bar represents 150 μ m.

Movie S2: Antigen-specific CD4⁺ effector T cells display decreased motility in influenza-infected lungs, when compared to antigen unspecific CD4⁺ effector T cells. CD11cYFP (rendered in red) mice were infected intranasally with PR8OVA₃₂₃. 6 days post infection, *in vitro*-activated P25s (white) and OTIIs (blue) were transferred into the infected animals. T cells were labeled with different intracellular dyes prior to transfer. Eighteen hours after T cell transfer, lung tissues were imaged via the explant technique. Laser wavelength set to 840nm, z steps of 3 μ m acquired every 30 seconds. Movie represents maximum projection of the collected volume data over time, and plays at 10 frames per second. Scale bar represents 150 μ m.