Analysis of the intracellular niche of a phagosomal pathogen

Jenkins Lab

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T35 Summer Program in Infection and Immunity
Background

Macrophage

Phagosome

Se

MHCII

IFN-γ

CD4⁺ T Cell (Th1)
Hypothesis

During Se infection bacteria reside within mononuclear phagocytes in the MLN that localize to areas rich in circulatory and lymphatic vessels.
Methods
Methods

![Graph showing the relationship between days post infection and the logarithm of CFU Se. The graph compares Se-WT (black circles) and Se-dTomato (red circles).]
Methods

![Merge](image-url)
Anatomical Location of Se

LYVE-1

CD11c

B220

CD169

Merged
Anatomical Location of Se

LYVE-1

CD11c

B220

CD169

Merged
Phenotype of Infected Cells

<table>
<thead>
<tr>
<th>Category</th>
<th>Se-WT</th>
<th>Se-dTomato</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eosinophils</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Neutrophils</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>Dendritic Cells</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Monocytes/Macrophages</td>
<td>4</td>
<td>77</td>
</tr>
<tr>
<td>Other (Non-lymphocyte)</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Legend:
- Autofluorescence (Blue Laser)
- dTomato

Graphical representation showing the distribution of infected cells in different categories.
Phenotype of Infected Cells

[Graph showing the number of dTomato+ cells for different cell types: Eosinophils, Neutrophils, Dendritic Cells, Monocytes/Macrophages, Other. The graph compares Se-WT and Se-dTomato.]
Phenotype of Infected Cells - Macrophages
Eosinophils

dTomato
B cells
Eosinophils (Siglec F)
Dendritic Cells

dTomato
B cells
Dendritic cells (CD11c)
IFN-Inducible Proteins

dTomato
B cells
NOS2
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References


