

P018 Primary murine bone marrow macrophages can be re-infected by *Salmonella enterica* serovar Typhimurium *in vitro*
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The aim of this study was to investigate whether murine macrophages already infected with *Salmonella enterica* serovar Typhimurium could be re-infected with additional bacteria. In order to visualize re-infections, *Salmonella* strains were labelled with two different fluorescent proteins, either GFP or DsRed and *in vitro* infections were performed. Macrophages were infected sequentially at different times with the two labelled strains. Single infections with both strains were performed in parallel as controls. Direct microscopy observations showed a statistically higher number of macrophages infected with both red and green labelled bacteria than expected by chance. It is therefore possible that the individual bacteria were internalised at different times in separate events, directly implying that re-infection events occur. However, the possibility that multiple, differentially labelled bacteria were internalized simultaneously cannot be excluded. As a Null Hypothesis, it was established that re-infection could not occur. In such a situation, the proportion of cells infected with the first strain should not decrease when the second strain is added. Our results demonstrate that a decrease in percentage of cells infected with the first labelled strain occurs upon addition of the second strain. That indicates that macrophages already infected by *Salmonella* can accept second bacteria and thus, re-infection events do occur.