Abstract ID : **49**

Kinetics of the T cell response against influenza A virus is influenced by the site of infection

Content

Influenza A virus (IAV) infects millions of people each year, resulting in respiratory disease with symptoms ranging from a mild common cold to a severe fatal viral pneumonia. Vaccines may protect against multiple IAV subtypes by targeting conserved intracellular epitopes of IAV. By using ferrets, we can assess how the T cell response against IAV is influenced by the site of induction, which IAV proteins are more likely to evoke an immune response and which proteins are involved in cross-protection.

In a recent study, we infected ferrets (n=28) intranasal (i.n.) or intratracheal (i.t.) with H2N2 or PBS and analyzed samples from pre-infection and 14 days post infection. We found that i.n. infection with H2N2 invoked a stronger virus-specific T cell response in the blood. However, more CD8+ T cells could be detected in the bronchoalveolar lavage of i.t. infected ferrets. T cells showed strong responses against peptides of the conserved H2N2 proteins PA, PB1 and PB2, which corresponds with our observation that T cells of H2N2 infected animals cross-react to H1N1.

These results imply that the site of vaccination influences the T cell response, which can contribute to the development of more efficient IAV vaccines against seasonal and pandemic IAV.

Choose primary session

Choose secondary Session

Contribution Type : Paper presentation