Abstract:
The development of effective therapies to prevent and treat persistent infections is of the highest priority as they cause considerable clinical challenges and on-going health care costs. Efforts to improve the treatment and prevention of chronic viral infections require a better understanding of the immune responses needed to achieve optimal control of persistent viruses long-term. Although innate and adaptive immune responses were thought to be non-overlapping, recent evidence suggests that interplays between them occur frequently and are required for effective immunity. Our studies attempt to define the cellular and molecular interactions required for on-going effective anti-viral immunity. We have described interactions between NK cells and dendritic cells (DC) and their impact on effective innate immunity. Whether NK cells can influence adaptive immunity remains poorly understood. Our recent studies have focused on defining the impact of NK cells on: cytokine responses, virus-specific T cell responses and immunopathology. These findings, and the insights they provide to the critical requirements for efficient control of viral infection, will be discussed.