

SgN Immunology Seminar



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Immune therapies for chronic HBV infection and related liver tumor (HCC): triggering virus-specific or innate-like T cell response?

Host
Dr Alessandra
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Date
Wednesday
19 February 2014

Time
11am – 12pm

Venue
SgN Seminar
Room
Immunos Building
Level 4
Biopolis

Hepatitis B virus (HBV) infection is a predominant Asian health problem: of the 350 million people with chronic HBV infection (CHB) worldwide, approximately 75% live in Asia. Understanding the immune pathogenesis and developing immune-based therapies to cure this chronic viral infection and its major complication, hepatocellular carcinoma (HCC), is the research focus of my laboratory.

We developed strategies utilizing complimentary reagents capable of restoring intrahepatic immunity. The triggering requirements of Intrasinusoidal immune cells purified from healthy and pathological livers has been analyzed to define how to activate liver resident immune cells (NK and NKT cells).

We also produced monoclonal antibodies with T cell receptor-like specificity that can deliver antiviral cytokines exclusively to HBV infected hepatocytes and we engineered HBV-specific T cells to express HBV-T-cell receptors cloned from patients who resolved the infection. I will discuss the development and characterization of these reagents in vitro and in mouse model and report the initial results obtained in the first patient with HBV-related HCC treated with HBV-specific TCR-engineered T cells.