



## **PD-1 Directed Immunotherapy**

**AHMED, Rafi**

Charles Howard Candler Professor, Microbiology and Immunology, Emory University School  
of Medicine, Atlanta, GA 30322, USA

Email: [rahmed@emory.edu](mailto:rahmed@emory.edu)

### **ABSTRACT**

Chronic antigen stimulation during persistent infections or cancer leads to T cell exhaustion. Programmed cell death (PD-1) is an inhibitory receptor that attenuates T cell receptor signaling and sustained PD-1 expression by exhausted T cells plays a major role in T cell dysfunction. T cell exhaustion and the role of PD-1 in chronic infection were first described in mice during lymphocytic choriomeningitis virus infection and later shown to occur in several situations of antigen persistence in mice, non-human primates and humans. Importantly, blockade of PD-1 interactions with its ligand (PD-L1) restores function in exhausted T cells. Recently blockade of the PD-1 pathway was used successfully in patients with advanced cancer. In this talk I will discuss the role of PD-1 in regulating T cell differentiation and also discuss combinatorial strategies that enhance PD-1 directed immunotherapy.