3. **Aims and Objective**

The aim of the study was to determine the interaction of JEV with human peripheral APCs - monocyte derived macrophages (MDMs) and monocyte derived DCs (MDDCs), involved in innate immune response, in terms of

i. Differential susceptibility of MDMs/MDDCs to JEV infection

ii. Functional status of MDMs/MDDCs (phenotypic maturation and cytokine production levels), and differential ability of wild-type and vaccine JEV strains to induce APCs functional activation.

iii. Differential susceptibility of wild-type and vaccine JEV strains to innate anti-viral response [IFNα, nitric-oxide (NO) and CD56+ cells (NK/NKT cells)]

Two models of innate response was studied i.e., (1) JEV-macrophage interaction with type-I IFN and NO as anti-viral mechanism, and (2) JEV-DCs interaction with CD56+-NK/NKT cells as anti-viral mechanism.

We used two JEV strains - JE057434 (neurovirulent, primary clinical isolate, as wild-type strain) and SA14-14-2 (non-neurovirulent, live-attenuated, commercial, JEV vaccine strain) to understand the effect of viral virulence in modulating innate immune response.

**Note:** Peripheral CD56+ cells comprise both NK (CD56+CD3-) and NKT (CD56+CD3+) population of innate lymphocyte. Thus, the term ‘CD56+ cells’ and ‘NK/NKT’ are used interchangeably to represent NK/NKT cells throughout the text.