

## Treating Dengue Virus Infection Using Genetically Modified Antivirals

**R**esearchers at the University of South Florida understand that the need for safe and effective inhibition of dengue virus infection, which is a mosquito-borne human pathogen, is a critical global priority. Currently, there are no specific antiviral treatments available.

Infection by dengue virus is one type of viral infection where small interference RNA (siRNA) technology can be applied. Our technology addresses the critical need for both a viable vaccine and for the treatment of dengue viral infection using siRNA through novel genetic constructs. The method consists of an effective vector for inhibiting viral infections where the vector comprises expression cassettes, and works through down regulation of gene expression in the dengue virus and reduction in apoptosis of antigen presenting cells

In vitro tests (Fig. 1) indicate that siRNAs may be used to attenuate dengue virus infection in human dendritic cells and may have therapeutic and prophylactic value.

### ADVANTAGES:

- Provides an antiviral treatment for dengue virus infection, a worldwide public health problem, for which no effective symptomatic treatment currently exists
- Serves as a vaccine to prevent and/or treat dengue virus infection

### Novel Dengue Virus Treatment/Vaccine

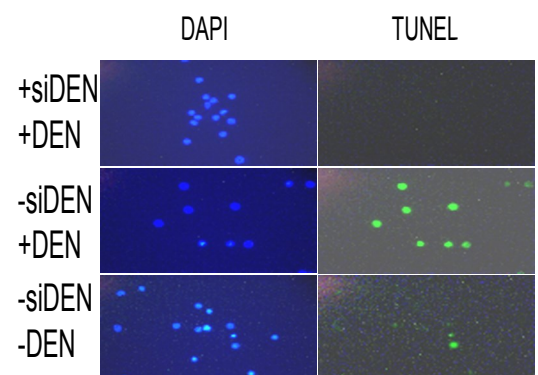


Fig. 1 siDEN reduces apoptosis in human dendritic cells (DC) infected with DEN-2.