

## **Abstract**

The genus *Flavivirus* is composed of about 73 viruses. Of these viruses, 34 are mosquito borne, 17 are tick borne, and 22 are zoonotic agents transmitted with now known vector. Forty species of the flavivirus family have been associated with human disease. Yellow Fever, Dengue Fever, and Japanese Encephalitis, are the most important arboviral infectious diseases across every continent and have been legitimized into Class I and Class III transmissible disease, must be reported, in current issue of Regulation of Prevention and Control for Transmission Disease at Taiwan. The specific aim in this proposal is generation of monoclonal antibodies (MoAb)s against four flaviviruses, including the emerging West Nile in addition to the three viruses mentioned above for CDC at Taipei.

In this three-year proposal, BALB/cJ mice will be immunized by these 4 different flaviviruses and hybrids will be generated by fusion of myeloma cells and immunized splenocytes. After selection the virus-specific antibody-producing hybridoma in HAT culture medium, cloning will be done with limiting dilution method. The virus-specific MoAb s will be purified from ascites of NOD/scid mice injected intraperitoneally with hybridoma cells. The antigenic specificity and typing of immunoglobulin subclass of MoAb will be characterized and optimal sandwich ELISA pairing between MoAbs will be crossmatched.

In the first year, 16 monoclonal antibodies were generated against type 3 dengue virus and this year, further characterization of antigenic molecule showed that epitope(s) on E protein of only Den 3 were specifically recognized by these monoclonal antibodies. In addition, 5 monoclonal antibodies reacting to Yellow Fever virus were obtained in the 2nd year. The NS 1 protein was identified as antigenic molecule recognized by three of the five monoclonal antibodies, and viral protein E was recognized by other two. As far as date, this project was progressed on the trail of schedule.

**Keywords :** *Flavivirus ; Monoclonal Antibody ; Epidemiology ; Disease Control*