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 flaviviruse 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, since SPF mice of BALB/cJ can not be supplied on schedule by National Experimental Animal Center. The work of viral antigen preparation of Yellow Fever and West Nile original planed in 2nd. and 3rd year was adjusted completed in the first year. Under the condition of limited supply of BALB/cJ, 16 clones of anti-Den 3 MoAb-producing hybridoma cell-lines were selected and established. The characterization works of these MoAbs are on going.

Keywords：Flaviviruses；Monoclonal Antibody；Epidemiology；Disease Control