WHAT IS CLAIMED IS:

1. A method of detecting an arthropod borne virus in a biological sample comprising:

mixing the biological sample with the recombinant baculovirus having at least one viral protein of an arthropod borne virus expressed thereon, wherein the arthropod borne virus is a specie of Flaviviridae or Togaviridae family; and

detecting a complex formed between an antibody against the arthropod borne virus in the biological sample and the recombinant baculovirus in an immunological assay.

2. The method of claim 1, wherein the antibody is an IgM or IgG.

3. The method of claim 2, wherein the immunological assay is an enzyme-linked immunosorbent assay (ELISA).

4. The method of claim 3, wherein the biological sample is selected from the group consisting of a whole blood sample, a plasma sample, a serum sample, a urine sample, a mucus sample, and purified or filtered forms thereof.

5. The method of claim 1, wherein the arthropod borne virus is the specie of the Flaviviridae family selected from the group consisting of dengue virus (DENV), hepatitis C virus, Japanese encephalitis virus (JEV), pegivirus, West Nile virus, yellow fever virus (YFV), and Zika virus (ZIKV); and the viral protein of Flaviviridae family is selected from the group consisting of Pre-M, E and a combination thereof.

6. The method of claim 5, wherein the arthropod borne virus is JEV; and the recombinant baculovirus has the viral proteins pre-M and E of JEV expressed thereon.

7. The method of claim 1, wherein the arthropod borne virus is the specie of the Togaviridae family selected from the group consisting of Barmah Forest virus, Chikungunya virus (CHIKV), Eastern equine encephalitis virus, O'nyong-nyong virus, Ross River virus, Rubella virus, Semliki Forest virus, Sindbis virus, Western equine encephalitis virus, and Venezulean equine encephalitis virus; and the viral protein of Togaviridae family is selected from the group consisting of E, E1, E2, E3 and a combination thereof.

8. The method of claim 7, wherein the arthropod borne virus is CHIKV; and the recombinant baculovirus has the glycoproteins E1 and E2 of CHIKV expressed thereon.