

Serological evidence that Tacaribe virus is circulating among bats in Trinidad and Tobago

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Abstract

Tacaribe virus (TCRV) is a bisegmented, ambisense, RNA virus within the genus Arenavirus. Arenaviruses are grouped into Old World lymphocytic choriomeningitis-Lassa virus complex and the New World Tacaribe complex viruses. TCRV is placed within the Tacaribe complex along with the South American hemorrhagic fever viruses: Chapare, Guanarito, Junin, Machupo, and Sabia viruses. The only isolates of TCRV were from 11 artibeus bats collected by investigators at the Trinidad Regional Virology Laboratory in the Republic of Trinidad in the 1950 s. TCRV has not been isolated since, although serological data from the 1970 s suggested it may circulate among Caribbean bats. Only one isolate remains, TRVL-11573, and it has been passaged in suckling mice and Vero cells. We sought to determine if TCRV is still circulating in bat populations in Trinidad through serological investigation. We developed an ELISA and western blot assay using His-tagged recombinant TCRV nucleocapsid antigen. Serum from *Artibeus jamaicensis* that had been experimentally infected with TCRV was used as a positive control, and serum collected from an uninfected *A. jamaicensis* used as a negative control. ELISA screen of bloods from 84 bats of various species captured in Trinidad identified several, mostly artibeus bats, as seropositive for antibodies to TCRV.

Keywords:

Some of these were tested by western blot. Four were negative eight were weakly positive