Dr. A. B. Sabin
Children's Hospital Research Foundation
Elland Avenue and Bethesda
Cincinnati 29, Ohio

Dear Doctor Sabin:

Perhaps you will remember my mentioning the disease among bats occurring here on the Fort Sam Houston reservation. In addition to confirmed rabies isolations, we have recovered other viral agents from the salivary glands of encephalitic bats. Preliminary attempts to identify one of these unknown agents are as follows.

The isolate (11410-1419) was obtained from bat salivary glands in white Swiss mice. The second intracerebral passage material has an incubation period of 5-6 days (paralysis and death) in mice with a titer of 10^-5.5. Mouse brain suspensions (20%) inoculated intracerebrally into bats (T. mexicana) produced encephalitic manifestations in these animals six days post-inoculation. Salivary gland suspensions from these moribund bats killed mice in 5-6 days. Brain material from the same bats produced manifestations of the disease when inoculated intracerebrally into mice. With the exception of mice, host specificity studies including rabbits, hamsters, guinea pigs and goats are to date negative. This agent is one of five which we have been unable to identify as rabies from the standpoint of neutralization tests and microscopic examination of tissues.

Reciprocal complement-fixation tests with known neurotropic virus antigens and antisera, and with antigens and antisera to the 1410-1419 agent suggest the bat virus to share some antigen common to St. Louis encephalitis virus (Hubbard strain). Thus, specific SLE guinea pig antisera consistently fix complement with 1410-1419 antigens. This cross fixation is of low order, and is not reciprocal since high titered 1410-1419 antisera will not fix complement with SLE antigens. Relationship to no other arthropod-borne virus has been demonstrated by complement-fixation tests.

The bat virus is partially neutralized by potent hyperimmune SLE rabbit serum, but not by antisera to WEE, EEE, LOA, EMC or rabies virus. Reciprocal neutralization tests, using 1410-1419 immune rabbit sera have not been completed.

I believe you will agree these data suggest that the 1410-1419 bat virus is antigenically related to, but not identical with, SLE virus.
An extensive disease outbreak, presumably due to the virus of SLE, occurred among the civilian populace in the Rio Grande Valley of Texas during the summer months of 1954. Attempts are being made to obtain frozen stored patients' sera to see whether or not they will fix complement with 1410-1419 antigens.

Your comments and suggestions toward final identification will be greatly appreciated.

Sincerely,

KENNETH F BURNS
Lt Col VC
Chief, Veterinary and Virology Branches

P.S. I have just received from S.T.M.S.G.S. confirmation of our preliminary findings.