

HARVARD UNIVERSITY

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF
TROPICAL PUBLIC HEALTH

25 SHATTUCK STREET
BOSTON 15, MASSACHUSETTS

May 2, 1959

Dr. Albert B. Sabin
The Children's Hospital
Research Foundation
Cincinnati 29, Ohio

Dear Dr. Sabin:

When you sent me the two ECHO-16 strains (Nixon and Czarnek) that I requested last fall, you indicated your interest in antiserum that might be prepared against these viruses. As I later wrote you, we merely wanted to see if CF or neutralizing antibodies would develop in some animals other than monkeys or rabbits with minimal immunization. The possibility that a CF antibody response to these agents might result after a single, or only a few, doses of virus (as it does in monkeys) failed to materialize. Nevertheless, I thought I would let you know what results we did get with your Nixon and Czarnek strains.

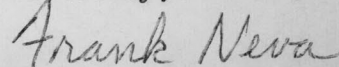
We were able to demonstrate CF antibody titers of only 1:4 or at most 1:8 in guinea pigs given 3 doses of live tissue culture-grown ECHO-16 viruses. These included your Nixon and Czarnek strains, as well as the Harrington strain, and 3 of our Exanthem strains. I did not feel that such CF antibody responses were sufficient to warrant further work along these lines.

Some neutralization tests were also done with the same sera. In our hands we have found that normal guinea pig sera at dilutions of 1:10 or lower often neutralize the ECHO-16 strains to some degree. Therefore post-immunization titers of 1:10 or lower probably don't mean much. We concluded that no appreciable neutralizing antibody response occurred after 2 doses of virus, but that a clear cut response usually occurred after the 3rd dose of virus. Enclosed are the results we obtained when 2 cultures were used to test 4-fold dilutions of serum. The day of the reading indicates the number of days after control cultures, inoculated with the same virus dose, showed unequivocal degeneration. Our results seem to confirm your finding that the Nixon and Czarnek strains are not too closely related to the prototype Harrington strain.

Thanks again for making the virus strains available to us.

Best personal regards,

Sincerely,



Franklin A. Neva, M.D.

FAN:r
enclosure: chart

Neutralizing Antibody Titers As Read After Varying
Periods of Neutralization

ECHO-16 Virus Strain and Dose Used

	McGrew 63-320ID ₅₀	Harrington 320ID ₅₀	Czarnek 320ID ₅₀	Nixon 32 to 100ID ₅₀
Anti-McGrew G. P. serum	Day 3- >160 Day 5- 7160 Day 7- 160	Day 3- 320 Day 5- 40 Day 7- 20	Day 3- 80 Day 5- 20 or < Day 7- <20	Day 3- 160 Day 5- 80 to 160 Day 7- 80
Anti-Harr. G. P. serum	Day 3- <10 Day 5- <10 Day 7- <10	Day 3- 320 Day 5- 160 Day 7- 160	Day 3- <20 Day 5- <20 Day 7- <20	Day 3- 20 or < Day 5- <20 Day 7- <20
Anti-Czarnek G. P. serum	Day 3- >160 Day 5- 160 Day 7- 160	Day 3- 80 Day 5- 20 Day 7- <20	Day 3- 40 to 80 Day 5- 20 Day 7- <20	Day 3- 160 Day 5- 80 to 160 Day 7- 20 to 80
Anti-Nixon G. P. serum	Not done	Not done	Not done	Day 3- 40 to 80 Day 5- 40 Day 7- 40

* Day of reading indicates number of days after control cultures, given same inoculum, showed unequivocal degeneration.